



Rai Technology University

ENGINEERING MINDS

History of Indian Economy



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CHAPTER 1

Emergence and Structure of Complex Economy

STRUCTURE

- Learning objectives
- Origins of agriculture, animal domestication, craft production to urbanisation
- Archaeology and geography of agricultural and pastoral communities of the subcontinent to the middle of the first millennium BC
- Comparative structure of economies in some early states
- Patterns of trade, urbanization and linkages: north India
- Patterns of trade, urbanisation and linkages: peninsular India
- Review questions

LEARNING OBJECTIVES

After reading this chapter you will be able to learn about:

- Beginning of food production.
- Understand the earliest farming groups in the Indian subcontinent.
- Analyze the growth pattern of early agricultural and pastoral communities in the subcontinent.
- Analyze the nature of agrarian taxation under the Mauryas on the basis of the information available in the Rumindei inscription.
- Give a brief account of the means of exchange.

ORIGINS OF AGRICULTURE, ANIMAL DOMESTICATION, CRAFT PRODUCTION TO URBANISATION

Beginning of Food Manufacture: Characteristics

When archaeologists talk in relation to the beginning of food manufacture they refer to four associated characteristics. Cooking and storing wheat and barley presents a new type of problem. While meat can be roasted directly on fire, cereals will be lost in ash if they are not cooked in a utensil. Therefore utensils which could withstand the high temperature of oven were required for cooking wheat and barley. Metal was strange. Earthen pots baked in fire were the earliest utensils for

cooking food. Wheat and barley were ground for creation bread. Querns and pestles were used for grinding wheat and barley. Regular grinding created a smooth polished surface on the stone apparatus. Therefore, the beginning of food manufacture is associated with the exploit of polished stone apparatus. The beginning of food manufacture coincided with the domestication of goats and sheep too. Although farming began earlier, in the Indian subcontinent mainly of the early agricultural societies used little quantities of copper apparatus. That is why they are referred to since chalcolithic societies meaning thereby that they used stone apparatus beside with a some copper apparatus.

Why did People take up Farming?

One of the great questions of prehistory is why, in relation to the 12,000 years ago, few people adopted an agricultural method of life. The mainly convincing account is that the environmental changes that followed the last ice age flanked by c 9000 and c 8000 BC, caused hunter-gatherers in Iraq, Palestine and Turkey, to shift to foods derived from grasses and legumes that were the progenitors of the cereal and pulse crops.

Regular harvesting and sowing of these plants led to selection of the domesticated shapes, which proved more productive. The beginning of food manufacture coincided with an equally revolutionary transform—*livestock raising*. The domestication of animals represented a radically new method of life. In the hunting gathering community animals were killed and consumed immediately. Now animals were reared to act since walking larders that could be used in times of scarcity. Food manufacture and animal domestication represented a changed outlook for food quest. It represented a scheduling not for a day but for a season – for the extensive term. When food manufacture and animal domestication combined since a mode of life it amounted to a revolution. This new agricultural economy expanded at the expense of the old foraging method of life.

Earliest Cultivation Clusters in the Indian Subcontinent

The reasons of the origin of agriculture in India are not clear to us. Mehrgarh close to the Bolan Pass in Baluchistan is the earliest agricultural resolution in the Indian sub continent. Beginning approximately 7000 BC since a camping location, this resolution saw a gradual shift from dependence on wild game to domesticated food crops and animals. Though, we have no proof for gradual, regional transitions to agriculture. Instead, the domesticated cereals and pulses seem suddenly. That is why scholars consider that the knowledge of agriculture spread to India from neighboring Iran where it had been imported from Iraq. Plants and animals domesticated through the villagers in Mehrgarh are less at house in monsoon India with its summer rainfall than in the uplands

of western Asia and Afghanistan with its wet winters. The knowledge of agriculture could spread to other regions by the actual migration of people, by deal and inter society marriages. From the north western India the thought of farming slowly spread to other sections of the subcontinent. Several societies took up agriculture and several did not. It depended on the requires and perceptions of the cluster. If few regions had abundant wild possessions, foragers would not take up agriculture even if they knew in relation to the it.

The hunting gathering societies experimented with several types of in the vicinity accessible edible grasses. Few of these grasses became the staple diet of the succeeding agricultural societies. In the Indus area the primary cereal was wheat/ barley. They also domesticated sheep, goat, cattle and buffalo. The Ganga valley existence pattern centered approximately the farming of rice. Their domestic animals were the similar. The farmers complemented their food through fish, game, wild plants and honey. The contemporary day food habits of the people in the Ganga and the Indus plains reflect the decisions made through our ancestors in the prehistoric past.

The municipalities of Harappa appeared in the Indus area. Later on the Ganga valley witnessed the emergence of municipalities in the sixth century BC. We shall follow the growths in the Indus area because it is linked with the first urbanization in the Indian past.

Mehrgarh: The Earliest Cultivation Village in the Indian Subcontinent

The earliest proof for agriculture in the Indian subcontinent comes not from the fertile river valleys of Indus or the Ganga. Rather it comes from the arid, windswept hilly areas of Baluchistan. The location of Mehrgarh is situated in the Kachi plains on the bank of the Bolan river. The river water shapes an inland delta in this region. The Bolan valley has been one of the significant circuits linking the Indus plains with the mountainous terrain of Baluchistan. Rustic nomads, traders and invaders have used this circuit from prehistoric times. Even now, rustic itinerant societies approach down from the hills and exploit the pastures of this region in the winter season. No wonder the resolution of Mehrgarh began its history since a camping location approximately 7000 BC. Almost certainly the society of pastoralists had learnt in relation to the cultivation from other mobile societies in the Afghanistan - Baluchistan region. The food of the people at Mehrgarh consisted primarily of wild game complemented through little quantities of domesticated cereals and animals. In excess of a era of a thousand years the inhabitants shifted from a reliance on wild animals to barley, wheat, sheep, goats and cattle.

The earliest inhabitants did not exploit pottery or copper apparatus. An irregular scatter of mud brick homes separated through refuse dumps made up the first village. Though, even the earliest inhabitants were by azure blue lapis lazuli, blue-green turquoise and white marine shells. These

substances had been obtained from far spaces. Marine shells could be obtained from the Makran coast only. Lapis lazuli is established either in the steep mountainous area of Badakshan or the arid desert of Chagai. Likewise, Turquoise came from Kyzyl kum beyond the river Oxus. It illustrates that even the earliest agriculturists were linked with networks of swap extending from the Arabian sea to Central Asia.

Through in relation to the 5500 BC the resolution was transformed. People built mud brick homes having cubicles that could have been used for the storage of granules. They built retaining walls on terraces. They began to set roofs on rectangular part rafters. The first coarse pottery also emerged in this era. The already existing list of valuable stones was augmented through the white and black steatite, red-orange carnelian and banded agate.

Expansion of the Agricultural Societies

Through the fifth millennium BC several agricultural villages, big and little, had been founded in Baluchistan. Villages like Kile Gul Mohammed and Kalat in the Quetta valley and Mundigak close to Kandahar in Afghanistan came into subsistence. Settlements like Sarai Khola close to Taxila and Sheri Khan Tarakai south of Bannu also date to this era. Through the fourth millennium BC the resolution of Balakot came into subsistence. Situated on the Makran coast, this resolution might have been the source of sea shells established in modern agricultural settlements.

Approximately 4000 BC Mehrgarh had grown into a resolution of in relation to the 50 hectares. Separately from the continuance of the earlier custom of structure homes and granaries this era saw few growths. People in Mehrgarh began by copper on a significant level. To this era also date the discovers of a big number of female terracotta figurines. There are proofs for size manufacture of pottery with the introduction of the potter's wheel. The painted decoration on this pottery has been regarded since the hallmark of the pottery of the agricultural societies of Baluchistan. It looks that agricultural societies were colonizing new regions.

Agriculture Spreads to the Indus Plains

It was in the second half of the fourth millennium BC that the agricultural organization urbanized in the piedmont zone was successfully transplanted into the plains of the Indus river organization. The location of Amri illustrates typical borrowings from Baluchistan. In relation to the forty locations have been accounted on the plains of the now arid bed of the Hakra river. The

colonization of the Indus plains through the agriculturists was a biggest step in the growth of agricultural societies. The flood plains would have been more densely forested with swamps and wild animals posing challenges to human societies. Once these regions were colonized the food yields would dramatically improve. Also waterways were the mainly efficient manners of transport in the ancient world. Therefore settlements beside the river bank became efficient nodes of communication radiating and getting powers on a more organized level than had been possible earlier. Therefore the shift to river valleys was an significant level in the expansion of agriculture.

Consequences of Agriculture

The origin of agriculture is related to the birth of village. Hunter-gatherers moved their houses just as to the seasonal migration of animals and availability of fruits and roots. Unlike hunting gathering, agriculture needs that the farmer keep in one lay for a extensive era. He has to sow seeds, he has to water the plants and he has to protect the saplings from birds and animals. Only after four to six months are the plants ready for harvesting. This means that unlike hunting-gathering, agriculture encourages settling down in one lay. That is why the big level emergence of villages dates to the coming of agriculture.

Coming of agriculture is also related to the emergence of extensive term patterns of cooperation. Hunting-gathering clusters require cooperation for organizing hunt. Once the hunt is in excess of and game has been shared the cluster ceases to exist. The vital element of social institution of mainly hunting and gathering clusters is the group, a little- level itinerant cluster of fifteen to fifty people related through kinship. Rather than livelihood in consistently sized clusters during the year, group civilizations tend to spend section of the year dispersed into little foraging elements and another section of the year aggregated into much superior elements. This pattern of dispersal and aggregation is related to the seasonal availability of food and game in dissimilar regions. Kinship ties are loose and people of one cluster easily move to another cluster. On the other hand agriculturists require cooperation from sowing to harvesting. Unlike a typical hunting expedition which might last a day or a week, agriculturists have to cooperate in the manufacture procedure lasting at least four months. While agriculturists are staying for the crops to grow. Therefore, there is a require for cooperation in the middle of food producing clusters crossways the year. No wonder agricultural civilizations are characterized through big kinship networks which are the institutional frame for extensive term cooperation in the middle of the farmers.

Settled agricultural populations tend to expand both numerically and territorially. Population development is higher in the middle of sedentary societies. Crops provided farmers with more dependable supplies of grain based weaning foods such since gruel and porridge, since well since

milk, once the goats and sheep began to be milked. The standard interval flanked by births would have been reduced, leading to augment in population. Also agricultural behaviors like harvesting and sowing can be done through children too, whereas hunting needs full grown adults. The possibility of early induction into the manufacture procedure makes desire for more children.

The coming of agriculture meant that crops could be sown in regions where they did not grow naturally. Therefore, there was an artificial extension of the manufacture niche. While hunter-gatherers depended on nature to give them food, agriculturists actively created new landscapes of cultivated crops. Therefore, cultivators colonized several new regions uninhabited in the earlier era. They removed unwanted vegetation to plant food producing crops. This led to cutting down of forests. The domesticated plants required greater tending and care compared to the wild diversities. They needed water more frequently. Therefore, the beginning of food manufacture coincided with the growth of irrigation. Agriculture also led to an augment in the carrying capability of land. Several calculations suggest that a hunter-gather would require roughly four square kilometers of land to feed him in a year's time. A extremely little chunk of land could support big number of agriculturists.

The Early Harappan Era

The era beginning approximately 3200 BC saw few significant changes in the Indus area. The cumulative impact of the expansion of agriculture is visible in this era. Cultivator's livelihood in the similar village for hundreds of years urbanized a bigger understanding of land, soil and cropping pattern of the region. Regions having same weather and soil would produce same crops. These villagers were in touch with each other **by** deal and intermarriage. There are proofs for regular interaction in the middle of the village societies. Shared pottery customs in big regions have also been accounted. That is why few scholars call it the era of the emergence of local customs.

A Chronological of Span of the Pre-Harappan and Harappan Settlements:

- Earliest Job: 3300-2800 BC
- Early Harappan: 2800-2600 BC
- Mature Harappan: 2600-1900 BC
- Transition flanked by Mature and Late Harappan: 1900-1800 BC
- Late Harappan: 1800 BC onwards

The village societies in southern Baluchistan and the Quetta valley illustrate the exploit of same types of painted pottery having naturalistic decorations showing humped bull and Pipal leaf

motifs. Mundigak in Afghanistan, Damb Sadaat in the Quetta valley and Rana Ghundai illustrate the exploit of same kinds of terracotta figurines. Settlements like Anjira, Togau, Nindowari and Balakot have been accounted from central and southern Baluchistan. They had deal links with cities in the Persian Gulf. In the Baluchistan region the number of settlements increased fourfold.

The Indus Area

Dramatic changes were taking lay in the settlements of the Indus plains. In excess of a era of time the Indus region appeared since the focal point of future growths. We shall review few of these growths.

Growths in the Piedmont Zone

In the piedmont area Mehrgarh sustained to illustrate impressive growths in the early third millennium BC. The resolution of Rahman Dheri close to the Gomal pass illustrates proof of intended oblong resolution and attendance of several types of semi-valuable stones. In the Bannu region the resolution of Tarkai Qila too has acquiesced proof of a big diversity of granules. The discovers of wheat, barley, lentil, peas, sesamum, linseed jointly with the bones of domesticated sheep, goat and cattle, indicate that the food manufacture foundation of the Harappans had appeared through this era. In a resolution surrounding described Lewan the inhabitants look to have dedicated in the manufacture of stone apparatus. In a world where people had presently been introduced to copper, mainly of the behaviors were accepted out with stone apparatus. Few regions had good excellence stone quarries. People in these regions were exploiting this resource not only for the exploit of the regional society but also for exchanging it with the merchandise of regions distant absent.

The Lower Indus Plain

In the lower Indus plain Amri appeared with a separate custom. People built homes of stone and brick. They painted motifs like the humped Indian bull on their pots – a custom which sustained into the mature Harappan stage too. These people shared few aspects with the roughly modern settlements like Dholavira and Surkotda in Gujarat. Opposite Mohenjodaro on the left bank of the Indus was situated the resolution of Kot Diji. The mainly motivating discovers in this resolution is the wheel thrown pottery having decorations of plain bands of dark brownish paint. This type of pottery has been accounted from such distant flung settlements since Kalibangan in north Rajasthan,

Mehrgarh in Baluchistan, and beside the whole stretch of the river Indus where pre- Harappan villages have been established. This distribution of the pottery custom is related to greater communication in the middle of the agricultural societies.

ARCHAEOLOGY AND GEOGRAPHY OF AGRICULTURAL AND PASTORAL COMMUNITIES OF THE SUBCONTINENT TO THE MIDDLE OF THE FIRST MILLENNIUM BC

Neolithic and Chalcolithic Societies

The first food producing community, based on wheat-barley farming and domesticated sheep-goat-cattle. Here, we turn to India beyond the arc of Baluchistan-Indus-Hakra-Gujarat and to the archaeology and geography of the several agricultural-rustic societies in the subcontinent's other segments.

Early Agricultural-Rustic Societies from Vindhyas to Ladakh

One of the earliest such civilizations is situated in the Vindhyan range of southern Uttar Pradesh and nearest segments of Madhya Pradesh, at places like Koldihawa and Kunjhun. The archaeology of these locations illustrates a Neolithic stratum. Their inhabitants used polished stone axes and microliths since also handmade pottery and existed in wattle and daub homes. Mainly importantly, this is an early rice cultivating society which, in the middle of other things, is apparent from the husks of this cereal that are embedded in the clay of the pottery. Even if there are uncertainties in relation to the whether this cereal was independently domesticated here or in relation to the chronology of its first farming – of the nine radiocarbon dates of Koldihawa, only three go back to the 7 and 6 millennia BC – there is small doubt that we are looking at the earliest rice rising civilization of the Indian subcontinent. The dates from Kunjhun II clearly attest that such a community had been recognized in the Vindhyas through the 4 millennium BC. More recent excavations at Lahuradeva in Uttar Pradesh suggest that such early rice farming was not presently confined to the Vindhyan hills but extended into the Gangetic alluvium. The earliest cultural job there has acquiesced granules of cultivated rice and its calibrated dates are establish the late sixth and early fifth millennium BC.

The possibility of an early transition from hunting-gathering civilizations to agriculture and pastoralism in **sure** other regions may also be measured, although the proof is not unambiguously

clear. For example, in the Ladakh area, the Neolithic location of Giak is since early since the sixth millennium BC, although another location of the similar cultural intricate has acquiesced a c. 1000 BC date. Another such case is that of Rajasthan, where the salt lakes of Didwana, Lunkaransar and Sambhar have acquiesced *cerealia* kind of pollen in a c. 7000 BC context, beside with comminuted/charcoal pieces.

This is apparently indicative of forest clearance and the beginning of few sort of agriculture. Though, to archaeologically confirm the lake proof, food producing civilizations of same antiquity will have to be exposed in Rajasthan. Taken jointly, the proof from Ladakh to the Vindhya does look to indicate that the advent of food manufacture in India was not a single event but was made up of multiple strands.

Neolithic Horizons of the Northwest and Chalcolithic Civilizations in Rajasthan

Such strands become much clearer a small later, and from 3000 BC onwards, for in excess of a millennia, several early cultivation civilizations can be encountered in the North-western highlands and lowlands of Pakistan, in the valley of Kashmir, in the Rajasthan plains since also in peninsular India. While the archaeological character of such civilizations cannot be discussed in depth here, a some salient characteristics are certainly worth highlighting.

Beginning with the north-west, the geographical sharing of locations in mountainous north Pakistan is roughly in the region flanked by Peshawar and Chitral. In the case of Kashmir, the locations are widely distributed in the valley region flanked by Baramulla and Anantnag on the one hand, and towards Srinagar, on the other hand. Although these are distinct cultural horizons, what is general to them is that the early stages of civilizations in both regions look to be metal-free Neolithic horizons marked through stone apparatus and bone implements of several types. Though, whereas in the case of Kashmir, to begin with, there is no pottery, the sequence at the Ghalighai cave begins with handmade pottery.

The character of settlements in the Kashmir valley is especially clear where we look to be in the attendance of people trying to cope with extensive, cold winters. The climatic rigors were sought to be mitigated through livelihood below the ground stage which is always warmer than the top surface. The pit dwellings that they used since residences, beside with the hearths that they lit to stay warm have been encountered at Gufkral and Burzahom. While the pit dwellings were accessed through steps since also through ladders, wooden pillars apparently supported the roofs that sheltered them. Pits were also dug for storage purposes and regularly contained animal bones, stone and bone apparatus. Wheat, barley and lentil were cultivated while sheep, goat and cattle since also domestic

fowl were kept. The bones of wild animals like ibex, deer, wolf, and bear have also been established, attesting to the information that hunting sustained to increase cultivation behaviors.

Since we move towards Rajasthan, two distinctive civilizations are encountered – the Ganeshwar-Jodhpura civilization in the northeastern section of the state and the Ahar civilization towards the southeast. Unlike the situation in the northwest, here, the first sedentary societies are chalcolithic. The early use of copper is not surprising as both these cultural zones are situated in regions that are rich in copper mineralization. The Ganeshwar-Jodhpura civilization is mainly distributed crossways the Baleshwar and Khetri copper deposit regions where long traces of old copper workings exist. That the demand for copper of ‘early Harappan’ civilizations from the Indus plains to Haryana may have been one of the causes for the big level attendance of copper-by sedentary, food producing civilizations in these segments of Rajasthan requires to be measured. At least, at Ganeshwar, the cultural sequence looks to suggest this. To begin with, the picture that we get there is of a microlithic-by hunter-gatherer cluster which subsequently becomes a hut inhabiting, pottery by community whose technology expands to contain both microliths and copper substances including arrowheads and fish-hooks.

Subsequently, copper substances were established in big quantities, going into many hundreds, and these could not have been manufactured for the inhabitants of Ganeshwar alone which is a little 3 to 4 acre resolution. In the case of the Ahar civilization, the recent excavations at Balathal, a roughly five acres location in the Udaipur region, are worth mentioning. In the first stage, there is proof of structural action in the shape of little circular wattle-daub homes with mud-plastered floors and two plastered storage pits.

What is mainly striking in relation to the chalcolithic civilizations of Rajasthan and the Neolithic horizons of the northwest, however, is neither the character of their buildings nor the nature of their economy. Instead, it is time era that they engaged which, since their dates illustrate, was prior to the birth of the Harappan culture. In the case of the Kashmir Neolithic, the calibrated radiocarbon date of Era I at Burzahom is c. 2800 BC. The dramatic revision in the chronology of the Ahar civilization is another example in point. Its beginnings at Balathal go back to c. 2800 BC, if not earlier. Prior to these discoveries, several scholars visualized the Harappan culture since the supreme urban, literate phenomenon that illuminated other contemporaneous civilizations, since it were, with the ‘radiance’ of its character, since a stage when the level and importance of the culture’s sub continental deal facilitated the making of local civilizations with which the Harappans had intimate interactions in several areas to its north, east and southeast. What has now become apparent, is that few such civilizations that had earlier been bracketed since contemporaries of the Indus culture have turned out to be older and were, in information, interacting with the early Harappans. Burzahom, for

example, is. recognized to have acquiesced a wheel made red pot with 950 agate and carnelian drops and another pot of the similar kind on which is painted the 'horned deity' motif. Again, at Ganeshwar, the wheel made pottery of Era II is of early or 'pre-Harappan' affinity. When one believes the big level attendance of copper artifacts in a same context at locations like Kalibangan, the likelihood of contemporaneous copper rich cultivation civilizations in the Rajasthan belt being the primary suppliers of such substances looks mainly likely. Undoubtedly these interactions approach to be more strongly articulated with the birth of the Harappan culture. But, what looks to be worth underlining is that even before the making of Harappan municipalities, the Neolithic-chalcolithic civilizations of the Northwest and Rajasthan were not closed or in accessible cultural worlds.

Southern Neolithic Ash Mound Custom

Another equally early third millennium BC horizon is the Southern Neolithic or ash mound custom. Geographically speaking, a big number of the settlements are situated on the southern Deccan plateau, and are more often associated with minor streams than biggest rivers. The ash mounds are derived from the burnt accumulations of cattle dung at locations of ancient cattle pens and, not surprisingly, the attendance of animal herding in the economy has extensive been established. The importance of cattle keeping is also suggested through the attendance of cattle bones, terracotta figurines of humped cattle since also rock bruising depicting cattle.

More recent job has suggested that, beside with cattle keeping, agriculture also shaped a biggest section of the Neolithic diet there. A diversity of plant remnants have been recovered from many locations, including Hallur in the west, Sanganakallu and Tekkalakota in the Bellary district and locations in the Cuddapah district which illustrate the attendance of little millets and tropical pulses. The crop regime is qualitatively dissimilar from any other sub continental civilization of this time and is one that was logically the best version in the lower rainfall region of south India. The uniformly recovered pulses from the earliest stages are mungbean and horsegram, two species whose wild progenitors are recognized to happen in the area. It is entirely possible that these were in the vicinity and independently domesticated there. Many non-native cereals are also present, always occurring jointly and contain emmer wheat, free threshing wheat and barley. Although they are establish in early stages at Sanganakallu and Hallur and could, so, have been present from the beginning of the Neolithic, their frequency increases in excess of time, therefore suggesting that they may have been adopted on a little level and increased in importance later on.

Civilizations Modern with the Harappan Culture

The archaeology of India in the third millennium-early second millennium BC is dominated through the attendance of the Harappan culture, the only literate subcontinental segment of its time with a transregional spatial spread from Baluchistan to the upper Ganga-Yamuna doab and from Jammu to Gujarat. On the contrary, on the peripheries of the Harappan sharing region since also much beyond the Harappan world, significant cultural changes were taking lay. These simply cohered approximately the emergence of village civilizations in those areas where only hunter-gatherers were earlier present and the consolidation of such civilizations in regions where agricultural-rustic clusters were already in lay. In more methods than one, it is from this era onwards that there is practically an unbroken succession of civilizations which create mainly segments of inner India visible. That there are some gaps in the sequence of such civilizations also means that we are looking at fairly continuous jobs. This does not mean that the successors of the people who first inhabited these regions sustained to live there for centuries on end. There necessity has been, since there is today, demographic mobility and consistent readjustments of population clusters. All that it means is that new clusters of people came and settled in the extremely regions, and regularly at the similar locations where the pioneer farmers had first recognized their villages in the third and second millennia BC.

Northwest and the Chalcolithic Roots of Iron Technology

In northwest Pakistan, through c. 2000-1800 BC, the Neolithic situation gave method to a copper/bronze by cultural intricate which is recognized since the Gandhara Grave civilization. Therefore described because it is marked through big grave complexes on hill faces, it also had associated settlements marked through rectangular stone constructions. The geographical sharing of settlements was in the hills in the region flanked by Swat and Chitral-at spaces like Timargarha, Balambat and Thana- and in the vicinity of the Peshawar valley, where Zarif Karuna is situated.

In the case of Kashmir, while Neolithic-chalcolithic locations sustained to flourish, a new unit is the attendance of an iron-bearing megalithic stage at Gufkral. Calibrated adaptations of four dates from there hover approximately c. 2000 BC. While the iron substances are not several, two points or needles and an indeterminate fragment, there is small doubt that this spots the beginning of iron technology in this area. In the superior perspective, this should not surprise us because iron substances in equally early contexts approach not only from other contemporaneous agricultural societies in Rajasthan and Uttar Pradesh but also from Harappan locations like Lothal and Allahadino. Within the superior perspective of Old World civilizations, such a situation is regularly

encountered. For example, knowledge of iron smelting was section of the Bronze Age Sumerian custom.

In all such cases, one has to create a distinction flanked by the beginning of iron technology which, in the Indian context, can be dated to the end of the third-beginning of the second millennia BC and the advent of the Iron Age. If the Iron Age can be defined since the era flanked by the significant attendance of iron in the archaeological sequence of a given region and the beginning of the early historical era in that region, it is reasonably clear that through approximately c. 1000 BC big sections of the Indian subcontinent had passed into the 'Iron Age', while in sure regions the procedure may have begun earlier. In the case of Kashmir, it is likely that we are still mainly in the attendance of a Neolithic-chalcolithic phenomenon because the primary dependence of protohistoric people was on a stone technology and copper based artifacts.

Fortified Ahar Civilization Settlements of Rajasthan

In Rajasthan, the later stages of the Ganeshwar-Jodhpura and Ahar chalcolithic civilizations are encountered. Since before, there is abundant proof of copper substances and regional metalcrafting. The existence pattern looks to have been a combination of agriculture and stock raising. Wheat, barley, two diversities of millet, gram, linseed, etc. are establish beside with bones of several domesticated animals in which cattle are predominant. The wild animals contain many kinds of deer, turtle, fish, pea fowl and fowl. At Balathal and Gilund, big silo bases, storage bins and buildings recognized since possible granaries provide us a clear indication of the strong agricultural foundation of the economy. But of the several archaeological characteristics of the Rajasthan civilizations, two are especially noteworthy. First, an early attendance of iron can be seen there. For instance, at Ahar, since several since 12 iron substances in the second and third stages of the three stage Ahar civilization, are present. These have been establish in the similar contexts which have acquiesced etched carnelian drops and one of lapis lazuli, both of which are clearly of Harappan provenance. The earliest calibrated points for these stages which are 2100 and 1900 BC, also underline that we are in the attendance of a civilization that is contemporaneous with the Harappan culture.

The second aspect worth highlighting is the complexity that can now be discerned in the character of Ahar civilization settlements. There are more than eighty locations, several of which are since little since a couple of acres while there are few that inhabit more than 10 acres. That this was a community where few settlements were structurally and functionally intricate is also apparent from the exhumed proof of Balathal and Gilund. At Balathal, through the beginning of the second millennium BC, the earlier village-like resolution provides method to a more intricate one in Stage 2,

marked through multi-roomed structural complexes in which kitchen and storage places can be recognized. Mainly interestingly, many characteristics that we usually associate with Harappan settlements are established at Balathal. For one thing, this is a fortified resolution with an region of in relation to the 500 sq m. The fortifications are fairly wide, flanked by 4.8 to 5 m, with a mud core reverted with stones on the inside and outside. On the southwestern corner, a bastion has been discovered.

That mud bricks, beside with stone is used for creation rectangular homes is also significant. Finally, a street of irregular width runs crossways the resolution and associated with this street, is also a little lane.

In the case of Gilund, the recent excavations there have shown that both the mounds were bounded through mud/mud-brick fortifications with a road flanked by them. Apparently the smaller, higher eastern mound recalls the elevated regions of few Harappan locations while the western mound resembles the 'lower city' of these locations. Considering the nature of these settlements in relation to the standard Ahar civilization location, the possibility that Gilund and Balathal was local centre of a chiefdom institution requires to be measured. That the architectural characteristics of such centers imitated the shapes of contemporaneous Harappan cities also looks likely. Rajasthan and the northwestern regions of the Indian subcontinent, of course, are local segments where through this time agricultural and rustic clusters already had a attendance that was many hundred years old. But, if we move to inner India, for the first time such civilizations create their attendance felt, in regions like the Malwa plateau, in Maharashtra and in the upper and transitional Gangetic plains.

Pioneer Farmers of Malwa and Maharashtra

Malwa is dominated through a big fertile plateau drained through the Chambal, Kali Sindh, Narmada, Sipra, Betwa and other rivers, It is on the banks of the Choti Kali Sindh, a tributary of the Kali Sindh, that the kind location of Kayatha is situated. It is this location which has given its name to the first chalcolithic horizon of Malwa – the Kayatha civilization of which there are in excess of 40 locations, most in the Chambal valley. The resolution at Kayatha was marked through homes of mud and reed with mud plastered floors while the technology was a combination of copper and an long microlithic blade industry, dominated through chalcedony. The Kayatha horizon at Kayatha is dated to the second half of the third millennium BC which creates it a modern of the Harappan culture.

Its interaction with the Harappans is apparent from a number of things ranging from the pottery described 'Kayatha ware' which has an early Harappan affinity and the 40,000 microbeads of steatite established there which are apparently identical to Harappan specimens. Its interaction with the

Rajasthan region is apparent from the parallel in the forms of its copper axes with those from Ganeshwar. What succeeds the Kayatha civilization is a civilization that is same to what we have already encountered in Rajasthan. This has also been called since the Ahar civilization in central India as its pottery is same to what can be seen in spaces like Ahar and Gilund. In all probability, that is an early second millennium BC phenomenon.

In the case of Maharashtra, the village community that was a modern of the Harappans is represented through the chalcolithic Savalga civilization. This civilization is concentrated in the Tapi basin where twenty seven locations are established and possibly, the only recognized location outside this zone is Daimabad, situated in the Godavari-Pravara basin. Much of our knowledge in relation to the archaeological characteristics of this civilization comes from Daimabad and, mainly striking is the attendance of dissimilar types of homes within the region. Mainly homes are closed on three faces and open on the fourth, with low mud walls. Though, there are two homes that are visibly dissimilar: a three roomed building with a big courtyard and a 25 sq m region of the floor decorated close to the hearth with shell decorations and a two roomed building with five circular hearths one of which contained an agate *linga*. This suggests that the first cultivation society of the northern Deccan was characterized through inequality in conditions of status and possessions.

First Farmers of Bihar and the Doab

Finally, one can move north and observe the emergence and expansion of village cultivation societies in the Gangetic plains of Bihar and in the *doab* area of Uttar Pradesh. In the case of Bihar, although its southern segment is recognized to have an extensive prehistoric segment, no early Neolithic or cultivation society is recognized from there. On the other hand, in the alluvial plains of northern Bihar there are many such locations – Chirand, Chechar-Kutubpur, Senuar, Maner and Taradigh are few of the significant ones that have been exhumed. These are all river bank locations with Chirand, Maner and Chechar- Kutubpur on the Ganga itself.

There is nothing tentative in relation to the such Neolithic locations and the cultural deposits indicate a close, extensive attendance. Chirand is an instance of this where the Neolithic stratum is 3.5 m dense. It is marked through Neolithic axes, bone and antler implements, beside with a rich microlithic industry. The ornaments are equally diverse – in bone, ivory, agate, carnelian, jasper, steatite and faience. The cultivation pattern is a broad based one with the remnants of crops like rice, wheat, barley, moong and lentil while the animal remnants contain domesticated cattle since also wild animals like elephant and rhinoceros. Mainly importantly, this symbolizes premetallic agricultural villages that mainly thrived in the third millennium BC, perhaps continuing into the first century of the second millennium BC. Subsequently, they were to become metal by civilizations.

The picture that we have of early cultivation societies in the *doab*, though, is a considerably dissimilar one. For one thing, the Ochre Coloured Pottery civilization is chalcolithic not Neolithic. An significant aspect of it is the association of OCP with ‘copper hoards’. Such hoards include several artifact kinds – harpoons, swords, axes of several types, etc. One of these, an anthropomorph/lugged axe is also establish in the mature Harappan context at Lothal which takes back its antiquity to the second half of the third millennium BC.

For another thing, the cultivation clusters represented through this civilization coexisted with the Harappans in few pockets of the *doab*. This means that in this area, the OCP civilization necessity share its status since on behalf of the first cultivation societies of the *doab* with the Harappans.

Nature of Contacts Flanked by Harappan and Non-Harappan India

It is relevant to underline the aspect of deal and interaction flanked by the Harappan culture and the contemporaneous Neolithic-chalcolithic horizons that have been briefly discussed here. On balance, it would be fair to say that none of these horizons are in accessible village civilizations. The types of raw materials that are used at Neolithic Chirand on the one hand and chalcolithic Ahar on the other hand, underline this quite forcefully. Few of these civilizations are also situated in resource rich regions and it is likely that they were supplying copper, alloying metals, semi-valuable stones, etc. to the Harappans. These links are apparent from the attendance of Harappan and Harappan inspired substances in several such contexts since well – the etched carnelian drops at Ahar, the microbeads of steatite at Kayatha in Malwa and at Chechar-Kutubpur in Bihar are a some such examples. Additionally, that sure cultural traits may have been borrowed through the Harappans from contemporaneous Neolithic-chalcolithic horizons requires to be measured. For example, one information that is noticeable in relation to the crop patterns of protohistoric India is that prior to the third millennium BC, the rice rising locations look to be concentrated in the Gangetic plains. It is entirely perhaps that the adoption of rice in the Harappan existence pattern may have been a consequence of its links with regions to the east of the Indus organization. These links may also explain why, following the collapse and abandonment of municipalities and settlements, there were significant migrations from Sind and Cholistan towards regions that place east of the Harappan sharing zone.

Neolithic-Chalcolithic and Iron Age Horizons of the Second and First Millennia BC

Here, only a some characteristics regarding the subsistence of chiefdoms, the manner in which intricate civilizations were developing in north India and the role of iron technology in this procedure will be taken up.

Integration of 'Late Harappan' and Regional Civilizations in Maharashtra and Uttar Pradesh

In the region that lies geographically west of the Aravalli-Cambay divide, the early centuries of the second millennium BC were dominated through the decline and end of Harappan urban civilization. The procedure in few regions, however, began earlier than in others. Urban decline at Mohenjodaro had set in through 2200 BC and through 2000 BC, its death knell had been sounded. Though, the culture sustained after 2000 BC in other regions and, at few locations, it survived well into 1800 BC or even later. In cultural conditions, the devolution and transformation of the Harappan culture is significant for a number of causes, but from the perspective of few non-Harappan agricultural civilizations in north and western India, the aspect that is worth noting is that many of the migrating Harappan clusters directly impinged into their cultural orbits and became section of the cultural sequences there.

Such successor clusters are usually designated since 'late Harappan' civilizations and, in Maharashtra since also in the upper *doab* of Uttar Pradesh, this procedure of integration with the regional civilizations can be seen quite clearly. The Savalda civilization of Maharashtra, for example, is followed through a late Harappan stage. Apparently, the common material equipment of these locations in the Tapi basin, of which there are more than twenty, was not extremely dissimilar from the regional chalcolithic civilizations. The new unit was the attendance of late Harappan Sturdy Red ware. In the case of Daimabad, though, there were other 'Harappan' characteristics such since the attendance of mud bricks in the Harappan ratio of 4:2:1, Indus writing signs on pottery and terracotta sticks. In the *doab*, there is a huge jump in the number of settlements. A 1984 list mentions thirty one mature Harappan locations but one hundred and thirty late Harappan locations. Here also, since in the case of Maharashtra, there was an intermixture of the late Harappan custom with the OCP cultural horizon that sustained to flourish in the *doab* throughout the first half of the second millennium BC.

Summary of Cultural Horizons in the Subcontinent

The other aspect of the archaeology of the second millennium and first half of the first millennia BC is the continuous sequences of civilizations in several areas. The sequence of civilizations may be briefly summarized: *Northwest Pakistan*: Stages VI and VII of the Gandhara Grave civilization; *Kashmir and Almorah*: Megalithic civilizations; *Madhya Pradesh*: Malwa civilization; *Maharashtra*: Malwa civilization, two stages of Jorwe civilization, megalithic burial and environment locations; *Karnataka and Andhra Pradesh*: chalcolithic horizons containing Black and Red and Black on Red Ware, megaliths; *Orissa*: Neolithic locations, chalcolithic civilization with unpainted black-and red ware, dull red ware and burnished black, chocolate and red wares; *Northeast*: Neolithic civilizations in Assam, Meghalaya and Manipur; *West Bengal*: black-and red ware locations; *Bihar*: black and red ware horizons; *Eastern Uttar Pradesh*: Pre-Narhan handmade cord impressed red ware horizons, Narhan civilization, Black slipped ware civilization; *Western Uttar Pradesh*: OCP civilization, Black and Red Ware civilization, Painted Grey Ware civilization.

The picture is one of great variety made up of Neolithic, chalcolithic and iron bearing cultivation civilizations. Moreover, within the similar technical horizon since well the cultural character of locations even in geographically contiguous zones can be qualitatively dissimilar. In Kashmir, the advent of iron coincides with a stage marked through megaliths while in the Swat-Chitral zone of northwest Pakistan, iron becomes section of what is described the cultural column of the Gandhara Grave civilization in Stage VII. In the case of north India, this variety has one extremely significant implication. It reveals that no one civilization or one community can claim to be the harbinger or pioneer in the making of a strong agricultural foundation there. The situation in the *doab* is qualitatively dissimilar from that in eastern Uttar Pradesh. Again, the societies in the latter area, in their trajectory of cultural growth are qualitatively dissimilar from the manner in which village civilizations in Bihar evolved. Multiple rows of growth, rather than a unilineal pattern, is the dominant characteristic of the archaeology of north India in this stage.

Chiefdoms

The possibility of a chiefdom community being present in the Ahar civilization of Rajasthan had been measured. In this era, there are several other regions where such indicators of social complexity can be discerned. Take the case of the Jorwe civilization in Maharashtra. Usually speaking, the huge majority of Jorwe settlements are little and the data on the central Tapi basin indicate this. Of the 49 settlements, 40 are below 1 hectare, 6 measure flanked by 1 to 2 hectares, 2 are flanked by 2 to 3 hectares while one resolution approaches 9 to 10 hectares. At the similar time,

in each of the three geographical elements which are within the Jorwe sharing zone there is one big center-Prakash on the Gomai in the Tapi basin, Daimabad on the Pravara in the Godavari valley and Inamgaon on the Bhima river in the Bhima valley. These have been called since the local centres of chalcolithic chiefdoms.

The excavations reveal that this status can be accorded to it not merely on the foundation of the information that it is much superior than any other location in the Bhima valley. Unlike the standard location, there is public architecture in Inamgaon, in the shape of a fortification wall and a ditch approximately the location since also an irrigation channel and a huge embankment. This embankment was constructed for protecting the resolution from river floods. There is also a granary in the shape of a mud walled building divided into two sections through a low mud wall. It acquiesced no proof of human environment but contained several pit silos and round mud platforms for storage bins. What is significant is its location in the central section of the principal environment region, through the face of the main home exposed at Inamgaon. This home was a five roomed building and stands out in relation to the usual single room homes. It looks to have been the only multi roomed building of the Early Jorwe civilization here. Whether the persons or families who engaged this home were collecting taxes in the shape of grain which was kept in the granary through the face of the home is something that can only broadly be speculated.

But possibly, the mainly significant proof for a ranked community comes from the burials of Inamgaon. A unique burial was establish in the courtyard of the home where in a deep pit was placed a four legged clay jar which contained the skeleton of an adult male, in sitting, cross-legged posture with the feet intact. The differential treatment is striking because the common pattern of burial, of which there is abundant proof in the Jorwe stage, required that the feet of the dead be chopped off. Moreover, in the similar lay, but at an earlier point in time, another such burial was establish. Here there were two four legged jars, placed face through face. But they did not include any skeletal remnants.

There was only a painted globular jar containing an animal bone sheltered with a lid. Obviously, this constitutes a symbolic burial almost certainly because the dead body could not be recovered, but the status of the person was such that a ceremonial burial was idea to be necessary. On the foundation of this proof, it has been suggested that chiefdom in the early Jorwe stage was hereditary as there are two identical burials occurring in the similar lay, one in an earlier stage and the other in the later.

In several other sections of India since well, there are same indicators of social complexity, For example, in West Bengal, the resolution sizes in the Black-and-Red Ware horizon resemble those of Maharashtra. While mainly of the locations are below one acre, there are a some that are since big

since 8 or 9 acres. The attendance of this type of hierarchy suggests that few big locations may have been providing services to a number of little locations in their hinterlands. In Madhya Pradesh since well, throughout the Malwa civilization stage, although mainly locations could be classified since villages and hamlets, Nagda and Eran seem to be structurally more intricate. For example, at Eran, an attempt was made to defend the resolution on one face where it was unprotected through the Bina river in whose vicinity it was situated. This was done through the construction of a huge rampart, combined with a ditch. What does this type of structural construction tell us in relation to the nature of resolution at Eran in relation to its immediate hinterland is a question that cannot be just answered with any certainty but needs consideration.

Towards Socio-Economic Complexity in North India

These cultural growths, in few sections of India, would eventually culminate in the making of municipalities in what is **described** the 'second urbanization'. There were many stages of urban development that made up this procedure which, starting approximately c. 600 BC or a small earlier, sustained well into the early centuries AD. Though, as early historical urban development began beside a belt that stretches from Uttar Pradesh and Bihar to Malwa, the manner in which the centuries prior to 600 BC contributed to this procedure, especially in north India requires to be briefly measured. One aspect that emerges clearly from the archaeology and geography of the chalcolithic and Iron Age cultivation societies of this antecedent stage is the development in population and the development of a intricate resolution pattern. In the Kanpur district, for example, whereas there were only 9 Black and Red Ware locations, the number of locations of the succeeding Painted Grey Ware civilization is 46.

Moreover, there is a clear hierarchy in the resolution sizes. While since several since 38 of them can be measured since little villages, 4 look to be big villages while four of them would be measured since local centres. Usually speaking, this type of multi-tiered resolution hierarchy with settlements that range below one hectare to a some that are approximately 5 hectares or therefore is measured since a reliable index of the development of a intricate community. Another key variable that one sees emerging in this era concerns the articulation of deal networks which brought several types of possessions to the minerally poor Gangetic plains. This can be clearly seen in the Painted Grey Ware stage at many locations. The Painted Grey Ware stage, incidentally, is the stage of civilization which provided the foundation for the emergence of urban centres in the upper Gangetic plains. An significant location which reveals the types of raw materials that were used in this era is Atranjikhhera. Here, there are agate, carnelian, quartz and marble drops, also substances of ordinary stone like pestles and whetstones of red sandstone and limestone, a shell fragment, approximately

two dozen copper substances, since several since 135 iron substances including iron slag and *chir* pine. None of these – stone, metals, pine wood – are in the vicinity accessible. It is likely that there was already a class of traders that was procuring such raw materials therefore that regional production could be continued.

Issue of Iron Technology

Uptil now, we have recognized population expansion, the attendance of intricate resolution patterns and the articulation of non-regional raw material procurement since few of the variables that can be recovered from the archaeological record of north India. In this regard, it is also possibly necessary to talk about the question of technology. Few scholars have measured iron technology since the key factor in the making of a strong agricultural foundation which, in turn, was crucial to the birth of municipalities in c. 600 BC. The proof that we have already cited from Harappan contexts since also from Ahar clearly illustrates that the first separate stage in the growth of a technology capable of producing metallic iron in the Indian subcontinent coincides with the early chalcolithic civilizations. There is no proof that this knowledge led to any biggest changes in those early contexts. The cultural situation in the subsequent centuries in several regions is broadly same. In eastern India, for instance, the chalcolithic Black-and-Red Ware civilization becomes iron by towards the end of the second millennium BC. Bahiri, Mangalkot and Pandu Rajar Dhibi in Bengal are examples of this and, since we know, the birth of municipalities in that zone is many centuries later.

Significant new proof of an early exploit of iron in Uttar Pradesh has also appeared. There is iron in the Black-and Red Ware stage at Jakhera and also in a same context at Dadupur close to Lucknow. The three calibrated radiocarbon dates from Dadupur hover approximately c. 1700 BC. Iron bearing stages at Malhar and Raja Nal Ka Tila are also fairly early. Malhar II which is iron bearing has early second millennium BC dates while Era II of Raja Nala-Ka-Tila in the upper section of the Belan valley has been dated to c. 1300 BC. Both these locations illustrate long proof of iron smelting and production. Finally, the antiquity of iron at Jhusi close to Allahabad has also been put to approximately 1100 BC. The plethora of dates may look to be confusing but the cause why they have been mentioned here is to illustrate that the exploit of iron, at least in this section of the Ganga plain, looks to have been close and widespread from the transitional of the second millennium BC onwards. The abundant data on iron smelting which has been accounted at Malhar and its nearby region in the Karmanasa valley illustrates that these locations came up in the rich iron ore-bearing region at the fringe of Banaras most to supply smelted bloomery iron to this part of the Ganga plain.

This also implies that through this time a distributive network was already in lay for processed iron in the central Ganga plain.

Without few demands for the metal in the productive systems including agriculture, it is unlikely that iron would have made its appearance since early since this era at such widely distinct locations since Dadupur and Jakhera, both situated deep in the plains. Mainly importantly, this illustrates that the impact of iron technology was not revolutionary. There is a variation of roughly a thousand years flanked by the first appearance of iron in the Ganga plains and the beginning of the early historic municipalities of the region. The consequences of the exploit of iron on the Gangetic valley was evidently a extensive drawn and slow procedure. Also, since in the case of eastern India, there is cultural stability at spaces like Malhar flanked by the chalcolithic and Iron Age stages. The largest ceramic industries of its chalcolithic era were red ware, black-and-red ware and black ware. All these sustained in the iron bearing stage with the addition of black-slipped and grey wares. In the middle of the food crops, the mainly significant cereal in the chalcolithic stage was rice but there were other granules and seeds since well such since barley, mung, field peas, lentils, khesari, etc. All these crops are establish in Iron bearing Era II, beside with the power of rice. The new crops in this stage were wheat, diversities of millet, horse gram and sesamum.

In the light of such data, the notion of the Iron Age on behalf of a biggest social and economic transformation, since much since it may appeal to our love of a neatly ordered succession of measures working in tandem with technical transform, does not stand to historical scrutiny. Iron technology certainly continued the 'second urbanization' but the urban procedure itself was a consequence of multiple factors – a burgeoning population; a close agricultural foundation which allowed the making of centres of population where consumers rather than producers of agricultural surplus existed; deal networks, and; the formation of states of several types where the nucleus of political and institutional domination came to reside in the urban shape.

Vedic Literature—Troubles and Issues

The picture that has appeared in this module in relation to the agricultural-rustic settlements in non-Harappan India does not seem since a straightforward, unified picture but rather one in which there are multiple, dynamic civilizations and multilineal rows of growth. This is a framework that emerges from the material traces that have been left behind through the extremely societies whose past we seek to reconstruct. To put it another method, if we have called the ancient diet of chalcolithic Balathal or the iron by people of Malhar, it is based on the discarded refuse, the garbage that has been left behind through them: charred cereal, cut or burnt bone remnants, ancient *chullahs*

and storage pits, the straw of dissimilar cereals which, after the crops were threshed, was mixed with mud to create walls or even bricks.

Though, separately from such archaeological data, there is a corpus of literature that has been regularly used for script the history of India flanked by c. 1500 and c. 600 BC. These are the *Vedic* texts which are ritual, religious compositions. The earliest of them is the *Rig-Veda* while the later *Vedas* are the *Sama*, *Yajur* and *Atharva Vedas*. There are four categories of texts which create up the corpus: the *mantra* or *Samhita* collections; commentaries on sacrificial rituals or *brahmanas*; philosophical treatises or *Upanishads*, and; the instructions for rituals, etc. or *sutras*. Unlike archaeological data, these were put in their present shape much later than the times when they were collected. They shaped section of an oral custom which was collected and elaborated in excess of a extremely extensive time span and committed to script several centuries later.

Because of this, there are several and contradictory ‘facts’ that are contained in these texts and, depending on what one wants to prove, all types of histories can and have been constructed out of them. This diversity is motivating in itself but hardly creates for a narrative that has won universal acceptance. This does not mean that all literary texts that are used for reconstructing the history of early India are of this type. For example, the *Rajatarangini* written through the Kashmir chronicler, Kalhana, is a more conventional historical text with details in relation to the dynasties, measures, etc. which, incidentally have been corroborated through other historical sources. The *Vedas* do not fall within this category. Separately from the peculiarities of their genre and composition, there is also the problem in relation to the when these texts were collected and compiled. The antiquity of the hymns of the *Rig Veda* has been traced variously to eras ranging from c. 6000 BC to 1200 BC. While the earlier dates are unacceptable, the later ones are also not based on strong proof. Even if we were to accept a mid-second millennium BC date for the *Rig Veda* and fit in the later *Vedas* into the first half of the first millennium BC, the troubles in by these since either a primary or a corroborative source for the economic history of the era under revise needs to be tackled.

For example, let us follow those interpretations of the Vedic proof that have put forward an evolutionary framework of a mainly rustic economy, followed through big level agriculture. The details of this two level scheme of socio-cultural growth are since follows. In the first level, on the foundation of the core books of the *Rig Veda*, the subsistence of a rustic, cattle-based economy flanked by 1500 and 1000 BC, is postulated. There is small doubt that there are numerous references to cattle in this text – *gau* occurs in dissimilar declensions bout 176 times and there are dissimilar conditions for several measures that are derived from cattle. An instance is the plethora of conditions for ‘battle’ which contain *gavisti*, *gosu*, and *gavesana*. The proof, we are told, for agriculture is less strong and barley is the only cereal that is specified. The geography of the *Rig Veda* is mainly the

lands east of the Indus – regions in Pakistan Punjab and Bahawalpur and in Indian Punjab and Haryana. In the second level, from 1000 BC onwards, the geographical region of reference expands much further and contains the Gangetic plains within its ambit. In this era, a full fledged agrarian community is reflected in the Vedic texts where separately from barley, rice, bean-pulse, sesamum and millet are regularly mentioned.

To begin with, since distant since the *Rig Veda* is concerned, while there is no denying the numerically big references to cattle, there are also references to agriculture there. These may not be several but they strongly underline the subsistence of a plough based agriculture. An example that can immediately approach to mind is a hymn from a family book which is specialized to *Kshetrapati* and is devoted to ploughing. Two of its verses read: “May Indra press the furrow down, may Pusan guide its course aright. May she, since rich in milk, be drained for us **by** each succeeding year/ Happily let the shares turn up the plough land, happily go the ploughers with the oxen.” The other aspect that one requires to stay in mind is that of trying to dovetail the literary proof with the archaeological picture. If we accept the picture of rustic clusters dominating the geography of Punjab, Bahawalpur and Haryana in the time of the *Rig Veda*, juxtaposing it with the archaeology of those areas remnants a serious problem. In the archaeological landscape, it is not rustic clusters but agricultural societies that command attention and, in the middle of other things, this is amply highlighted through the crop patterns of the late Harappan civilizations of this zone.

On the question of agriculture, it may also be pointed out that north India did not have to wait for a ‘late Vedic era’, if at all there was one, for the consolidation of a close agricultural foundation. Thriving agricultural civilizations lived in the Gangetic plains much before the first millennium BC. For all the allusions in the *Satapatha Brahmana* in relation to the agriculture being accepted to the banks of the Gandak river in Bihar through the putative Aryans in the first half of the first millennium BC, archaeology tells us that in that region, in the third millennium BC itself, they were rice cultivating agricultural societies.

This does not mean that in script the history of early India, texts like the *Vedas* necessity be jettisoned altogether. In matters of ancient Indian philosophical and religious idea, they necessity be measured since an significant source of information. But when we are dealing with more mundane characteristics of the past such since the resolution patterns and existence strategies, if the *Vedic* corpus is treated since a primary source of information, this will lead to conclusions that fly in the side of well-documented archaeological data. Till the time that a greater precision is imparted to the chronology and character of *Vedas* since a historical source, if we are to meaningfully understand the geography and character agricultural pastoral societies in north India, it is wise to follow archaeology rather than seek ‘confirmation’ for religious texts.

This is also necessary because unlike the Vedic texts which remain focused on north India, archaeology gives us a tool for understanding the subcontinent beyond the pale of 'Aryan' texts. 'Vedic India' may reflect a two level-cultural growth, but the Indian subcontinent since a entire witnessed a rich diversity and depth in the development of cultivation civilizations in this time era and our understanding of its economic history necessity reflect this variety.

COMPARATIVE STRUCTURE OF ECONOMIES IN SOME EARLY STATES

Economy of the Mauryan Empire

The biggest sources for understanding the economy of the Mauryan empire are the *Indica* of Megasthenes, who came since an ambassador from Seleucus to the court of Chandragupta Maurya, Asokan inscriptions which were engraved in prominent spaces covering more or less the biggest section of the empire, archaeological remnants establish from explorations and excavations and the *Arthashastra* of Kautilya which champions the economic interest of the political power.

This huge empire was supported through a big army and an equally impressive administrative set up, maintenance of which required enormous possessions. Mobilization of vast possessions was possible in an economic building which was controlled through the state. The Maurya state actively participated in the manufacture and sharing of commodities. The Mauryas had a well recognized revenue organization and in the *Arthashastra* revenue collection has been categorized since the mainly significant administrative business of the state and instructions in this relationship are specific, detailed and thoughtful.

Agrarian Economy

Agriculture and the revenue from the agrarian sector was the mainstay of their economy. The Mauryas were the first political power to have exercised manage in excess of both the Indus and the Ganga river systems which supported the biggest agrarian societies. The royal farms working under the supervision of the *sitadhyaksha* or superintendent of agriculture shaped a biggest source of income to the royal treasury. From Megasthenes we learn that the tillers of the soil shape the mainly numerous class of population. The cultivator's listed since the main category, underline the centrality of agriculture and its requirement to uphold the Mauryan infrastructure both civil and military. Separately from the behaviors of the state in agriculture, private owners since farmers or land owners, cultivated the land or had it cultivated and paid the state a diversity of taxes. The hunters and shepherds used to clear the countryside of wild beasts and thereby helped the management in

expanding the region under farming. This act necessity also have facilitated the development of new settlements, the importance of which is also indicated in the *Arthasastra*. The new settlements helped in the expansion of the existing economic and fiscal foundation of the empire.

Megasthenes has commented upon the absence of slavery, but domestic slaves were a regular characteristic in wealthy households. The compound phrase *dasa-karmakara* meant slaves and hired labourers. The status of both were not pleasant and possibly there were much oppression. Slave labour was also used in the mines and through few craft associations. State initiative in irrigation, both throughout the time of Chandragupta Maurya and Asoka, is amply clear from the history of Sudarshan reservoir since gleaned from the Junagarh Prasasti of the Saka ruler Rudradaman. Asoka not only maintained the lake but also decorated it with conduits which definitely helped sharing of water to surrounding arable regions. The state also provided regional stage irrigation facilities and regulated water supply for the benefit of the agriculturists. Megasthenes speaks of a special category of administrators who inspected the sluices therefore that the cultivators could have equal supply of water. These administrators might have been the *Rajukas* who beside with other things also managed welfare works.

Manufacture of other Possessions

Possessions in the Mauryan empire were realized from the non-agrarian sector too. Recommendations of the *Arthasastra* and the observations of the classical authors suggest that revenue from the agrarian sector was substantially complemented through deal, use of metals and minerals, working in metals and the subsistence of dissimilar kinds of industries. Sections of the southern Deccan which were not possibly in the similar cultural stage since that of Magadha and Gandhara became economically extremely significant due to the availability of iron, gold and diamond. A number of Asokan inscriptions have been situated in the Deccan. The regions of Kurnool, Gulbarga, Raichur, Bellary and Chitaldurga districts, the first belonging to Andhra Pradesh and the rest to Karnataka, have acquiesced Asokan edicts. They possibly belonged to the southern province whose head quarter was at Suvarnagiri. This is a pointer to the information that the Mauryas were aware of and interested in the rich mineral possessions of the area. The state enjoyed a monopoly in the working of mines and in deal in mineral products. The proof of direct supervision of mines through Maurya officials, which obviously incorporated those yielding metallic ores usable for manufacturing of weapons, should have naturally encouraged the management to discover out and excavate new mines which were source of great income. The *Arthasastra* dwells in detail on the technique of mining and metallurgy.

The aspects of ores and ways of smelting and purification of ores are discussed. It regularly reminds that mines are an significant source of wealth and they constitute a largest cause for seeking to set up new settlements. It is significant to note that the southernmost headquarters of the Mauryas named Suvarnagiri was located extremely close to the well-known Kolar gold meadows. Raymond Allchin exposed traces of extremely old workings of gold and diamond meadows in Karnataka and western Andhra Pradesh. These could perhaps go back to the days of the Mauryas.

Approximately unrestricted monopoly was enjoyed through the state in deal in liquour and salt. Ships were built through the government and were let out to sailors and merchants. All these helped the development of economy and should have also enriched the treasury through method of taxes. The spread of the exploit of Northern Black Polished Ware and punch marked coins in excess of the greater sections of India as c. 300 BC is also compatible with the literary proof of deal throughout the Mauryan times. This pottery kind is subsequent to and technologically more advanced than the Painted Grey Ware (PGW). The chronological span of NBPW is more or less assumed to be from c.600 BC to 100 BC. The heaviest concentration of NBPW sherds have been at numerous spaces in the transitional Ganga plains in association with iron substances however it has also been establish in other sections of the empire. The advent of the exploit of NBPW coincides with the emergence of urbanization in the transitional Ganga plains. This ware was used through affluent parts of the community and therefore measured to be a deluxe pottery. The metal for punch-marked coins were either silver or copper and were round/roundish or square/squarish in form. These coins did not carry the name or imprint of any ruler or political power. Instead dissimilar representations were struck with the help of distinct punches on the metal pieces. Recovery of a big number of silver punch-marked coins designates that a great volume of money was in circulation. Regular exploit of these coins since a medium of swap definitely points to burgeoning deal. Copper cast coins datable to the Maurya era have also been establish. In the *Arthasastra*, coin minting was a state prerogative. We have reference to an administrator **described** '*rupadarshaka*', who was authorised to monitor the manufacture and circulation of the coins. Mauryan management was instrumental in transforming coinage into an all India phenomenon or almost therefore.

Deal

Mauryan expansion of deal and the facilitating of contacts flanked by far regions accelerated swap particularly in little items such as glass, clay and shell drops as also drops of agate, carnelian, jasper and lapis-lazuli. Bhrikukaccha was associated with the production of ivory and shell items. Mathura was also an significant bead manufacturing centre. Kautilya *Arthasastra* strongly advocates state supervision and manage of deal. The overall supervision and the framing of the

commercial policy of the state are entrusted to the *panyadhyaksha* or the Director of Deal. The *Arthashastra* looks to have been well aware of the revenue bearing potential of deal, including foreign deal. Though it is hard to ascertain to what extent the Mauryas actually controlled and managed deal in the absence of relevant data. From Megasthenes we learn that Mauryas had a state monopoly on shipbuilding. *Arthashastra* recommends the state supervision of shipping under the administrator *navadhyaksha*. However these facts are not sufficient to understand Mauryan attitude to the sea and maritime deal yet the information that the Mauryan realm incorporated within it extensive stretches of coastal strip on both the seaboard of India may suggest few interests of the Mauryas in seaborne commerce. Archaeological discoveries at Failaka close to Bahrain illustrate active deal in the Persian Gulf throughout the Seleucid rule with whom the Mauryas had regular contacts. In the Failaka collection we have Indian material like moulded pottery, stamped pottery, black washed pottery etc and these archaeological data from Failaka are becoming a key reference to the interpretation of the dealings flanked by Mesopotamia and India in the Hellenistic era. Deal in Indian goods throughout the Seleucid rule is also attested through several Hellenistic sources, e.g. we have reference to Seleucus I's offerings to the temple of Apollo in Didyma in 288/7 B.C., which incorporated frankincense, myrrh, cassia, cinnamon and costus, the three latter products being definitely imported from India.

Extraction of Revenue Possessions

Imposition of taxes was an significant mode of resource extraction for the Mauryas. The normal taxes were not measured enough to meet all the requires of the state and hence the state undertook and regulated numerous economic behaviors which shaped profitable sources of income. A big number of customary and new taxes were levied. The chief tax was the royal share in the produce of the peasants, amounting to 1/6 or 1/ 4. Besides the regular *bhaga*, *bali* and *udakabhaga* were also imposed.

That the Maurya state imposed both *bhaga* and *bali* is amply borne out through the Rummindei Pillar Inscription of Asoka. The peasants were required to pay the *pindakara* which was lump assesment made on clusters of villages. The irrigation cess was not levied at a flat rate but just as to the manner of procurement of water. Another significant source of income was traditions and ferry dues. Taxes were also levied from the guilds of artisan's livelihood in the capital. The urban centres were significant not only because of the state manage of crafts and commerce but also because of rich dividends they paid in the shape of several kinds of taxes. To replenish the depleted treasury, additional tax like *pranaya* could be levied only once and amounted to 1/3 or 1/4 of the produce just as to the nature of the soil. The government officials composed taxes and used to

superintend the crafts linked with land—those of wood cutters, carpenters, workers in brass and miners. Even if the rate of taxation was high and heads of taxes numerous the government had a strong machinery to realize the dues. The *Mahabhashya* of Patanjali, which states that ‘images were made through the Mauryas longing for gold’ suggests that the Mauryan management was bent upon looking for economic gain from every possible source.

The possessions, therefore extracted, were employed for a diversity of purposes. Expenditure in maintaining a vast administrative machinery since well since a big standing army obviously claimed a biggest bulk of the possessions extracted. Possessions were also needed for public welfare works since well since the common growth of the Maurya state however this growth was not uniform in all the regions. It has been argued that attempts were directed at enriching the metropolitan state of Magadha and its relation with other regions was so exploitative. In spite of being a section of the Maurya empire, the significant locations in Deccan illustrate the sustained predominance of the Megalithic civilization methods. The site of Asokan inscriptions during the huge empire is an indicator of the well maintained communication organization of the empire. Asokan edicts were situated at strategic points of both the Uttarapatha and the Dakshinapatha. In the Uttarapatha, e.g. the Lauriya- Nandangarh and Lauriya Araraj inscriptions in the Champaran district were clearly beside the circuit towards the Nepalese Terai where Asokan epigraphs are establish at Lumbinigrāma and at Nigalisagar. Another branch from Bihar went beside the Barabar hills by Sasaram towards Benares and Kausambi. Asokan inscriptions have been establish in all these spaces. The site of Asokan edicts beside the Dakshinapatha is also significant. Therefore we have Gujjara, close to Jhansi, Rupnath, on one of the arterial circuits from Bundelkhand to the Godavari delta, Sanchi, a some kilometres off ancient Vidisa, Deotak in ancient Vidarbha and Sopara on the Konkan coast. Andhra pradesh was also strategically extremely significant. This can be understood not only through the attendance of Asokan edicts in the Kurnool district but also through the archaeological proof of a mint with the power to issue Mauryan currency at Veerapuram in Kurnool. The sharing of Asokan edicts suggests that from Kurnool the row of interaction went to the Raichur doab, Bellary and Chitaldrug districts. Strabo, on the power of Megasthenes, stated that the *Agronomoi* create public roads and at every ten stadia set up a pillar to indicate through roads and distances. This is substantiated through the two Lamghan edicts of Asoka which served since indicators of distances to dissimilar spaces. Construction of roads and maintenance of a well set-up communication network can only be made possible when the state has a strong economic foundation. Possessions generated from taxation and other sources were also used for the propagation of Asoka’s *Dhamma*. Employment of new officials, undertaking of *DhammaYatras*, establishment of religious monuments including monasteries naturally involved vast money. This money could only be gained not only through exploiting

existing resource foundation but also through creating new resource bases and restructuring the economic programmes. The economic programmes were though more government or management oriented.

The enormous possessions from agricultural and non-agricultural sectors led to the formation and growth of urban centres. Mauryan stages from excavations of urban centres illustrate an improvement in the average of livelihood. We have a frequency of ring wells and soaked pits. Separately from the cities in the Ganga plains like Pataliputra, Rajagriha, Kausambi, etc. the other biggest cities were Taxila, Ujjaini, Mahasthan, Shishupalgarh. Shishupalgarh is recognized through few with Toshali and illustrates proof of cautious scheduling. The urban centres were though not of uniform mass and pattern.

Economy of the Kushana Empire

Archaeology of exhumed and explored locations jointly with literature, epigraphy and numismatics shape the largest source for the revise of the economy of the Kushana empire. The era has acquiesced numerous inscriptions, mainly of which are donatives in nature, since also a vast number of coins issued through the Kushana monarchs. The significant literary sources are the *Periplus of the Erythraean Sea*, Pliny's *Naturalis Historia*, Strabo's *Geographikon* and *Geographike Huphegesis* through Claudius Ptolemy. Chinese historical works like *Hou Han-shu* and *Chi'en Han-shu* also throw ample light on the economy of the era. However Indian literature does not directly enrich us with information in relation to the economy of the era concerned, few of them like the *Jatakas*, the *Angavijja*, the *Lalitavistara*, etc. enlighten us with few reflections of the economic condition of the Kushana times.

Agrarian Economy

We possess extremely small information on the land organization under the Kushanas. State initiative in agricultural manufacture is not much apparent. Big region of land tilled through the management is hardly seen in the Kushana realm. Though due importance to irrigation for the expansion of agricultural manufacture was given at least in the northwestern section of the empire. A survey of the Peshawar area has enabled scholars to locate remains of old canals, indications of agricultural land on the river courses, and traces of meadows on hill terraces with devices to channels rain water from meadows at the top to those at the bottom, the origins of which can be dated to the Kushana age. Private donatives Kharoshti inscriptions of the Kushana era are replete with references

to digging of wells. This may suggest that in the areas concerned, a well was looked upon since another significant source of water which could be used for irrigation and hence an effort to make water reservoir was measured since an act of merit. The excavation of one such well at Sorane in the Varther region to the east of Dargai has been dated to the similar era. The Kushanas, however having natural granaries in the fertile valley of the Indus and in a section of the Gangetic valley did their best to boost agricultural manufacture in regions which did not receive bountiful supply of rainfall.

Deal, Merchants and Monetization

Agriculture, though was not the mainstay of the economy in the Kushana realm. The Kushana monarchs mobilized vast amount of possessions, primarily, **by** deal - internal and external. The other financial and fiscal sources of the empire were gaining manage in excess of regions which were of utmost economic importance, crafts manufacture, mining and dissimilar types of taxes were imposed on the subjects.

Deal within the empire is indicated through substantial archaeological data. Excavations at Begram in Eastern Afghanistan have brought to light a store home of the Kushana era consisting of wares from dissimilar countries since well since from regions within the Kushana realm itself. Therefore we have plaques of carved bone and ivory which display figures carved out on the approach of Mathura art. Pottery recovered from a Kushana stratum illustrates a preference for a stable foundation in pots through creation them flat based or ring based which certainly was a characteristic of Sirkap pottery. This innovation in Ahichchhatra pottery was the result of the regional potter's knowledge of earthen wares from Taxila which had been an significant trading centre from a pre- Kushana age. Few new kinds of pottery establish at the Kushana stages of job at Kausambi is also said to have been inspired through potteries from Taxila. Sure incised designs on pottery at Kosam are comparable with those on the pottery of few itinerant tribes of Central Asia. The source of inspiration of few stylistic traits of Mathura art may be traced by Taxila to west Asia. Again north Indian locations of this age have produced terracotta human figurines with non Indian characteristics, head dresses and costumes. This was only possible when the artists came into get in touch with people having such characteristics. We have epigraphic data from Taxila and Mathura to suggest that people from western section of the empire visited those municipalities. Therefore there were movements of ideas and people in the shape of merchants, artists, etc. flanked by the distant flung localities of the Kushana empire. This movement was possible since the strong central power of the Kushanas in excess of an region from the Oxus territories to the Arabian sea since well since interior of northern India offered security and freedom of movements to traders of dissimilar sections of a huge territory.

Channels of communication connecting distant flung provinces of the empire were several and varied. The *Periplus* alludes to transit of articles of commerce from Thina and **by** Bactria, north India and Ozene, to Barygaza, the well-known port in western India.

Besides internal deal, the mainly significant aspect of commercial behaviors of this era is the brisk participation of India in extensive aloofness international swap network- both overland and maritime, particularly with the Roman empire. Roman empire had deal links with China and there was a great demand for Chinese silk in Roman market which was supplied jointly with other items beside the well-known overland Silk Road. This was not a single linear circuit for it included a number of branches. The circuit began from Loyang in China and reached the two Mediterranean ports of Antioch and Alexandria through traversing **by** Central Asia, West Asia and Eurasia. A passage in the Hou Hanshu, which provides information datable to c. AD 105 or even to c. AD125 refers to commercial communication flanked by Ta-ch'in and Shen-tu which was under the Yueh-chih. Indian wares were sold in the Roman empire 'at fully one hundred times their prime cost'.

From the *Periplus of the Erythraean Sea*, Pliny's *Naturalis Historia* and Strabo's *Geographikon* we learn that increasingly bigger knowledge and the utilization of the monsoon wind organization greatly facilitated oversea contacts with India, especially its west coast, **by** the Red Sea channel. A ship sailing from the Red Sea port of Berenike or Myos Hormos or Leukos limen could reach the western sea board of India in less than forty days if not in twenty days. This naturally facilitated an alternative and faster communication flanked by India and eastern Mediterranean regions. Therefore the establishment of the Kushana domination resulted in the movement of commodities **by** the north western borderland of the subcontinent to the western coast of India..

Two biggest ports of north India, namely Barbaricum at the mouth of the river Indus and Barygaza on the mouth of the river Narmada in Gujarat figure prominently in the *Periplus* and Ptolemy's *Geography*. The Hou Han-shu stated that after conquering the Lower Indus region the Kushanas became very rich and powerful. Since lower Indus region had regular commercial dealings with the Oriental resources of the Roman empire, this report of the Hou Han-shu may suggest that the advent of the Kushanas in the lower Indus area was motivated most through the prospects of gain offered through its thriving commerce with the Roman empire, in which the balance of deal was in favor of India. Recent petroglyphs, exposed in the Karakoram highway demonstrate the exploit of a shorter, possibly more dangerous, Chi-pin circuit to reach north India from Central Asian area. The occasional depiction of horses would suggest a strong possibility that Central Asian horses reached north Indian plains **by** this Karakoram circuit. This is apparent from the fine representation of horses with men wearing Yueh-chih dress in painting and etchings on rock. The municipalities of Taxila

and Pushkalavati, acting since gateways to overland access to Central and West Asia, and the well-known municipality of Mathura, a biggest political centre of the Kushanas, gained much out of this international commerce. The items of export and imports in this international deal, since gleaned from Hou Han-shu, *Periplus* and Pliny are several and varied.

Such commercial prosperity naturally described for long monetization. This was an significant aspect of Kushana economy. Provenances of a great number of Kushana coins, including few hoards, may suggest their circulation in sections of India and Central Asia even beyond the limits of the Kushana dominions e.g. a hoard of Kushana gold coins was establish in Ethiopia. This is a pointer to the international value of Kushana gold coins. Big influx of Roman gold pieces into India since a result of the deal with the Roman empire possibly convinced the decision of the Kushanas to strike gold coins. Roman coins though were mostly used since bullion in India. From the *Periplus* we learn that the Indian subcontinent, a substantial section of which was in the Kushana empire, was favorably placed in conditions of swap of goods with the Roman Orient and few other countries of Asia and Africa. The balance was received in the middle of other things in Roman gold. Therefore the Kushana empire was not required to export her gold coins in any great quantity. This caused Pliny to lament for the drainage of a great number of Roman coins from the empire. The Kushanas, themselves, struck silver coins only in the lower Indus region. Though an inscription from Mathura of the year 28, suggests that silver coins struck through private agencies were allowed to be circulated in the Kushana empire. Another significant aspect of coinage was the availability of a big number of copper coinage.

Copper coins usually used for petty transactions indicate an impact of monetization even on the daily life of the general people. Copper coins were truly meant for circulation during the empire and did not have any regional character. The organization of barter, though, was extremely much in practice. Pliny alludes to the organization of barter followed in Seres. Gold needed for the numerous gold coins almost certainly came from Bactria, which was well-known from an early age for the availability of gold in its markets and in **sure** gold producing regions of the Indian subcontinent. The mint masters of the Kushanas also could have procured gold through melting down imported Roman gold coins and gold substances.

In a era, which is characterized through booming deal, we are surely to approach crossways dissimilar categories of merchants. Epigraphic data accessible within the limits of the Kushana empire and throughout the Kushana times refer to *vanik*, *sarthavaha*, *vyavahari* and *sreshthi*. In the Pali canonical text and the *Jataka* stories, a *sreshthi* seems since one of the closest friends and associates of the king. Immediately before the reign of the Kushanas, throughout the time of the Indo-Parthian ruler Gondophares, we discover reference to *raja sreshthi*. The several conditions used

to designate dissimilar kinds of merchant obviously indicate their variation in economic since well since social status. Few of the merchants were rich sufficient to create magnificent donations.

Craft Manufacture, Guilds, and Urbanization

Another extra ordinary characteristic of economic life was proliferation of crafts which is closely related with expanding deal. Sifting by the epigraphic material of the Kushana era particularly from Mathura we get an thought of the job and crafts in practice at that time. Therefore we approach crossways superintendents of constructions, actors, carpenters, perfumers, goldsmith, cloth makers, *lohakara*, jewellers and therefore on. The archaeological material exposed from the locations of the Kushana era in the shape of pottery, terracotta substances, metal, stone, ivory and bone substances, plaques and sculptural pieces, drops, etc. designates the subsistence of potters, smiths, sculptors, weavers and same other craft clusters in the material milieu of the Kushana era. The working of bone and ivory also urbanized throughout the Kushana times. These were used for manufacturing luxury goods, domestic substances and weapons. The best specimens of ivory job are establish at Begram and Taxila. Craftsmen of dissimilar categories produced articles of daily requirements and also luxury items.

Though, one sector of industrial manufacture where state manage is apparent is the mining industry. Wealth of the state was augmented **by** mining. Epigraphic and literary materials, including the *Geographike Huphegesis* of Ptolemy, may indicate that the Kushanas took initiative to job out diamond mines in eastern Malwa. It seems that rich diamond mines might have lured the Kushanas into Akara. The Kushana management necessity have exercised few manage in excess of mining and marketing valuable stones, which were significant articles of commerce. The *Naturalis Historia* of Pliny refers to crystal like astrion stone establish on the shore of Patalene. The Hou Han-shu designates that the lower Indus region produced gold, silver, copper, iron, lead, tin, etc. At least few of these articles necessity have been acquired from mines located in the Kushana empire. The *Naturalis Historia* of Pliny refers to the practice of salt quarrying Mount Oromenus, the author says that political authorities derived greater revenue from salt mines than even those of gold and pearls. The importance of salt production has been rightly assessed from the point of view of its revenue yielding potentials.

Guilds were gaining importance in this era. Approximately every industrial action and biggest profession were organized under their respective guilds. The guilds' behaviors were several and varied. They acted since somewhat like an early shape of bank. In a number of cases the guilds **carried** permanent deposits of money on condition that the principal would be kept intact and only

the interest would be utilized. This ensured supply of capital to expanding craft behaviors and traders..

The economic prosperity of the empire facilitated brisker rate of urban development. Significant municipalities like Bactra, Peucolaotis, Taxila, Modoura, etc. which had already been in subsistence prior to the Kushana rule, blossomed further. Taxila was a fully intended municipality. Residential homes were laid out in a well-defined manner. Such intended urban centres are a novelty and the power of foreigners is quite unmistakable. In Ahichchhatra, a concrete road was established from a layer assignable to in relation to the 200 AD. Mathura witnessed an extraordinary development first under the Scytho-Parthians and later under the Kushanas. The ground plan of stage 16 at Sonkh close to Mathura illustrates the mainly urbanized and systematic stage of urban place out. Remnants of residential homes made of mud and burnt bricks of diverse sizes have been unearthed. Fortifications at Mathura were revived, enlarged and repaired. Traceable ruins of fortifications indicate that Mathura of the Kushana age was a fairly big municipality. Therefore Mathura appeared since a big and wealthy urban centre in the age of the Kushanas. Mathura's prosperity depended on deal, transit deal in scrupulous, since it appeared since a nodal point where many significant overland circuits converged. The singular commodity that Mathura could really boast of was its textile products..

Burgeoning deal and proliferation of crafts and industries offered sufficient opportunity to the Kushana monarchs to fill their exchequer through imposing dissimilar shape of levies on traders, industries and crafts most run through private enterprises. Testimony of big number of Kushana coins may indicate that taxes were primarily paid in cash. Though, archaeological excavations suggest that these were also paid in type. Excavations at Begram in Eastern Afghanistan have brought to light a store house of the Kushana era comprising wares from dissimilar countries. Mortimer Wheeler has suggested that this store house was almost certainly a traditions depot for receipt of dues in type composed from traders participating in international deal. Begram was extremely much within the Kushana empire and therefore this proof might indicate that the Kushana officials also composed taxes in type. The heaviest amount of taxes levied on industrial products, agricultural products and other articles of deal was apparently paid through the rich and big level entrepreneurs. It is apparent that the traders helped the empire in augmenting its financial possessions.

Though concentration of wealth was naturally in the hands of the comparably little number of people of the community and that a part of this class made a vulgar illustrate of wealth is indicated through Bardesanes in his 'Book of the Laws of the Countries' where he refers to the Kushana habit of receiving their horses adorned with gold and valuable stones. Such extravagant illustrate of

opulence, should have emphasised the distinction flanked by classes on the foundation of the possession of wealth or monetary domination. That this possibly was the case is suggested through a passage in a Chinese translation of the Assalayana Sutta, which refers to the community of the Kushanas since consisting of two classes, masters and slaves. In the original Pali text the conditions concerned are ayya and dasa. Slavery was extremely much present. Prisoners of wars could have been condemned to slavery. Difficult pressed members of the 'servant' class could have resorted to slavery for food. Slaves were almost certainly frequently imported into the Kushana empire. Slaves were possibly appointed for domestic purpose since well Development of slavery was advantageous to the ruling class and commercial enterprisers, as slaves constituted a source of cheap labour. In the Kushana domain there was almost certainly the organization of imposing 'forced labour' on people who were theoretically free. The Junagadh inscription of Rudradaman of c. A.D. 149- 50 refers to the prevalence of vishti or forced labour in the empire. As the family of RudradamanI almost certainly held the territory on behalf of the Kushanas for a era not much earlier than c. A.D. 149-50, the organization of compelling people to do forced labour might have been in vogue in the Kushana empire or at least in its Indian provinces. The rule of a central power in excess of a big empire should have allowed unhindered movement of at least the free people, rich or poor, in a huge territory. The close political climate was instrumental in the efflorescence of deal and crafts.

Economy of the Satavahana Empire

The biggest sources for understanding the economy of the empire were the epigraphs of the Satavahanas and their modern rulers the Saka Kshatrapas of western India, the coinage of the Satavahanas, the Graeco-Roman literature like the *Periplus Of the Erythraean Sea*, Pliny's *Natural History*, Ptolemy's *Geographike Huphegesis*, etc. The indigenous texts which historians have used are the *Gatha Saptasati* of the Satavahana ruler Hala, the *Jataka* stories and therefore on.

Agrarian Economy

Throughout the time of the Satavahanas, the potential of few sections of the Deccan since a rich agricultural zone was realized. In the inscriptions since well since in literature, we have references to a big number of crops that were grown in the area. Many new crops seem on the scene beside with the new ones. These contain two biggest cash crops, coconut, in northern Konkan and pepper in the Malabar coast. The availability of pepper in the Malabar coast is accounted in the

Periplus of the Erythraean Sea and Pliny's *Natural History*. Inscriptions speak of plantations of no less than 8000 seedlings of coconut trees.

The riparian tracts flanked by Godavari and Krishna became particularly wealthy for rice farming. Since a result of the abundant manufacture of rice, it was an significant thing of export. Other agricultural products were wheat, barley, millet, lentils, oilseeds etc. Of the several types of oil seeds, *tila* was extensively cultivated. The area of the Narmada acquiesced enough quantity of sesame and sesame oil was exported from Barygaza. The formation of the guilds of *tilapeshakas* in the Deccan points to the commercial value of sesame oil. Mustard was another significant oil seed. The *Gatha Saptasati* refers to the farming of the *rajika* diversity of mustard in the Godavari valley. Excavations at dissimilar locations also indicate farming of wheat, rice, barley, millet and lentils. The black soil in the valleys of the Tapti, Godavari, Narmada and Krishna provided the congenial atmosphere for big level cotton plantation. Sugarcane and Palmyra palm were also cultivated in few regions of Deccan. The *Gatha Saptasati* refers to *Guda-yantrika* which was possibly used to extract juice of sugarcane. From an inscription in Junnar we learn that a field was granted for plantation of palmyra palms.

Considerable attention was paid to irrigation. We have reference to water wheel with pot garland in the *Gatha Saptasati*. An inscription from Kanheri dated to the second century AD records the construction of a tank through *setthi* Punaka of Sopara. The mainly well-known instance of irrigation project in this era is undoubtedly the repair and renovation of the Sudarshana lake through Rudradaman I, the Saka ruler. Irrigation facilities were controlled both privately since well since through the royal power.

The Satavahana era saw the subsistence of smaller agricultural holdings which came mostly under private proprietorship. This is clearly corroborated through epigraphic proof of gift/sale of plots to religious clusters and persons. Ushabhadata, son-in-law of the western Kshatrapa ruler Nahapana had to purchase a plot of land from a Brahmana owner and then donated it to the Buddhist *Samgha*. Epigraphs at Junnar mention gifts of land located in dissimilar villages. State ownership of land was though extremely much in practice. Therefore the Nasik cave inscription of Gautamiputra Satakarni of the year c.130 AD refers to the grant of a royal land to few Buddhist monks. It further states that 'if the land is not cultivated the village is not settled'. Therefore here we discover an indication of the information that few grants were made to get the land cultivated thereby implying that agrarian expansion was a section of royal policy.

Crafts, Industries and Deal

The mainly extra ordinary characteristic of economic life was, though, proliferation of crafts and expanding deal. The Satavahana era acquiesced epigraphic proof of a big number of craftsmen, who left their names, traces of their job and religious leanings in the course of creation donations to several religious clusters and persons. Such records are accessible from western Deccan caves and Buddhist locations of Bharhut and Sanchi. Sifting by the epigraphic proof one comes crossways carpenters, bambooworkers, reed makers, braziers, potters, weavers, perfumers, cloth makers, oilmen, garland makers, jewellers, ivory workers, goldsmiths, blacksmiths. Excavations at Paithan, Maski and Kondapur have acquiesced drops of lapislazuli, agate, crystal, carnelian, onyx, amethyst and ruby. Few of them though were not regional products. The attendance of nodules, unfinished drops and bead moulds suggest that bead creation was a regional industry at many locations such since Bhokardan, Nevasa, Ter, Paithan, etc. The *Periplus of the Erythraean Sea* speaks of two active textile centres in central Deccan, namely Tagara and Paithan. Excavations at Ter have acquiesced a number of vats for dyeing cloth which corroborate the proof of the *Periplus*. Same dyeing vats are also accounted from the excavations at Arikamedu. These buildings belong to the 1 –3 centuries AD, throughout which handloom industry flourished.

Guilds were a special characteristic of deal and industry in the Satavahana era. These institutions enhanced manufacture essential to commerce and became an significant factor in urban life. The *srenis* fixed rules of job, since well since the excellence of the finished product and its price in order to safeguard both the artisan and the customer. Approximately every industrial action and biggest profession were organized under their respective guilds. A big number of epigraphic documents from western, eastern or central Deccan and central India leaves small room for doubt in relation to the their economic importance. Their importance is also established in diverse literary sources e.g. the *Jatakas*, *Avadanas*, *Milindapanho*, *Manusmriti*, *Yajnavalkya smriti*, *Mahabharata*, etc. The leader of the guild was recognized since a *jetthaka* or *pramukha*. The legal literature of this era refers to executive administrators thereby indicating rising complexities and expanding functions of guilds. In this era guilds began to function since banks. Guilds also helped in public welfare behaviors. An inscription from Junnar records the excavation of a seven celled cave and construction of a cistern through an association of corn dealer. In an ambience congenial to flourishing deal it was extremely natural that merchants would inhabit a location of considerable eminence. Satavahana inscriptions indicate merchants through the exploit of conditions such since the *setthi*, the *vanij*, the *sarthavaha* and the *negama*. These merchants are often establish to have been organized under commercial guilds e.g. *Vaniggrama* in an inscription from Karle. It has been effectively argued that these occupational and commercial guilds had secure association with religious establishments and

monasteries and guilds in the Satavahana territory played a significant role in the expansion of commerce. Monasteries acted since agencies which furnished information on cropping pattern, far markets, organisation of village settlements and deal.

It is significant to note that there was a lesser degree of state manage on craft and industry except for viewing them since biggest revenue earners. This becomes apparent from the imposition of levies on craftsmen in an inscription from Karle. Since there were tremendous development of crafts and industries in this era, therefore naturally a tax on the craftsmen earned vast revenue for the royal coffer. Mining was though a royal prerogative. Epigraphic references to remissions from salt tax from the Satavahana records suggest prevalence of salt tax in the said era. That salt manufacturing was significant from the point of its revenue earning potential was possibly realized also through the Satavahana rulers. We discover the expression '*deya meya*' in the Karle inscription which was imposed on *Karukara*. *Deya meya* almost certainly implied tax which were to be given and which were to be realised in few shapes which were measurable. It seems that Satavahanas realised taxes both in type since well since in cash. From the Junagadh inscription of Rudradaman I, the western Kshatrapa ruler, we learn of the usual *bali*, *sulka* and *bhaga*. Rudradaman I caused the rebuilding of a dam 'without oppressing the inhabitants of the city and country' through *kara*, *vishti* and *pranaya*. As the western Kshatrapas and the Satavahanas were modern dominations exercising power in excess of more or less the similar area, it is quite probable that the nature of taxation of these two dominations would be same.

Big level monetization was a section of the economic programme of the Satavahanas. Their coins have been establish in lead, copper, potin and silver. It is motivating to note that in the Satavahana empire the coinage of lead predominated. Silver issues of the Satavahanas are comparatively much less in number. Many Satavahana coin hoards have therefore distant been establish and separately from the Jogalthembi hoard which consisted of silver coins, all the other hoards compised coins of copper, potin, or lead. Satavahana coins have a marked local sharing and in several cases the power from the preceding coinage organization is undeniable. The provenances and few other thoughts illustrate that coins bearing a scrupulous kind might have been meant for circulation in a scrupulous region. Therefore a coin kind of the Satavahanas has the lion since the prominent symbol on the obverse. This kind is recognized from Gujarat, however a difference of the coin kind is establish in the Krishna Godavari districts of Andhrapradesh.

The ship kind of coins of the later Satavahanas with the Ujjain symbol on the reverse have been establish most on the Coromandel coast. Few ship kind of coins have also been establish in the Guntur district and few other spaces of Andhrapradesh. The exploit of the ship symbol may suggest flourishing coastal deal network. That the whole east coast from the Bengal delta to the Tamil coast

shaped a section of a single network is apparent from the sharing of Rouletted Ware sherds. The main number of Satavahana coins have the elephant on the obverse and either the Ujjain symbol or the tree in railing on the reverse. The first cluster of coins with the Ujjain symbol on the reverse have been established extensively in the Deccan, while the second cluster is mainly restricted to northern Maharashtra. The largest source for lead was possibly Agucha and Zawar mines of Rajasthan which include the main reserves of lead in India and which illustrate traces of old workings.

Though, the lead isotope analysis of the Sadakana and Kura coins of the pre Satavahana era is significant. These coins have lead isotope ratios dissimilar from those of any recognized Asian source of lead, but closely match those of the Sardinian and Spanish lead sources exploited through the Greek and the Romans up to AD 50. In contrast, the lead isotope ratios of the coins of the later Satavahanas would suggest the use of regional sources such as the Zawar mines. Silver coins of the Satavahanas, recognized in little number, were possibly meant for circulation during the empire. These had an imperial significance. Insignificant number of the recognized specimens designates that these coins shaped a sort of token currency. The Satavahana kings might not have established the mintage of striking silver coins in great number due to the information that the bulk of regional demand for silver coins was possibly met through the Kshatrapa silver coins current in the Satavahana dominion.

Proliferation of crafts, craftsmen and coinage was matched through spurt of trading behaviors in the Satavahana empire. It seems that through the early decades of their rule, the Satavahanas were in a location to manage significant trade circuits leading from central India and the central Deccan to few of the ports located in the north western Deccan. There was an expansion of extensive aloofness overland trade both within the subcontinent since well since to central Asia and China. Maritime trade extended from the Mediterranean area in the west to the Southeast Asia in the East. It has been argued that one of the contributing factors may have been the encouragement and liberal environment provided through Buddhism. It seems from the *Periplus* that commercial relationship flanked by the Deccan and the Roman Orient resulted in the establishment of a lawful market city at Kalliena throughout the time of an early Satavahana ruler. From *Periplus* again we approach to know that throughout the rule of 'Sandanes', the port of Kalyan faced an economic blockade through the western Kshatrapa ruler and the Greek ships which through chance entered there were sent under guard to Barygaza. Therefore separately from territorial manage, lure of the profit in the trade flanked by the Roman empire and India made these dominations hostile to each other. *Periplus* has vividly called how western coast was humming with trade in the Satavahana era. The Roman ships were anchored in the ports of Barygaza, Kalyan and Chaul. In the Satavahana empire, two significant ports of the eastern sea board were Kantokasylla and Allosygne of the Andhra coast. The importance of

this coastal tract is apparent from the Satavahana ship kind coins and an inscription from Ghantasal referring to a *mahanavika*.

Reference to dissimilar craftsmen and merchants residing at Surparaka, Vaijayanti, Dhanyakataka, Kalyana, Nasik, Bhargukachchha, Ghantasala in the inscriptions at Karle, Kanheri, Junnar, Amaravati illustrate that there was a network of roads connecting all the significant municipalities of Deccan. The overland circuit from Paithan to Maheshwar, Ujjain, Sravasti and Vaisali was full of traffic. This circuit had off-shoots going into the lower Krishna valley since well. One of these extended towards Surparaka on the western coast. Of all the branches, the mainly significant was the one that went from Ujjayini to the well-known port of Bhargukachchha. Connecting the mainly significant sea-port on the western coast with the inland marts, this circuit was extremely significant to the traders. The Nanaghat, the ancient deal circuit also played an significant role in the economic behaviors of the Satavahana empire. It served since the outlet for the products of the fertile tract approximately Junnar and other inland regions and the transportation of commodities and goods from the ports of Kalyan and Sopara to the inland regions. There was a circuit which ran from Ter towards the south where Kondapur is situated and proceeded via Akkenpalle, Nalgonda district to Nagarjunakonda.

An environment which experienced agricultural expansion, proliferation of crafts and craftsmen, booming deal beside with dissimilar categories of merchants and circulation of coins, would naturally have development of urban centres. Therefore many urban locations are accounted from the western and central Deccan of which Nevasa, Ter and Satanikota are of outstanding importance. The eastern Deccan also came under the impact of rising urbanism on being an integral section of the Satavahana empire. Many exhumed locations like Amaravati, Bhottiprolu, Salihundam, Nagarjunakonda, all located in the Krishna delta, illustrate urban dimensions. Their importance was enhanced due to their secure proximity to the eastern sea board which was dotted through a some significant ports. The location of Dhanyakataka served since an inland port city, up to which the Krishna was navigable. Epigraphic records too speak of development in urban centres. Therefore we have inscriptions which speak of *nagara* and *nigama*.

Economy of the Gupta Empire

The Guptas had ruled north India for in relation to the 200 years. Political unity, economic prosperity and extraordinary progress in every aspect of life under the Guptas were prevalent. The Gupta era had witnessed great prosperity, owing to the flourishing deal, agriculture and industry. Prosperity due to Roman deal, which began in the Kushana era, sustained till the early reign of the

Guptas. The Saka Satraps of western India sustained deal with the west after the fall of the Kushans. Chandragupta II had conquered Malwa and Saurashtra, through overthrowing the Saka rulers had recognized direct link of the Guptas in India with Roman deal.

Deal and Commerce throughout Gupta Empire

The peace and prosperity prevailing in the age gave a great impetus to inter-provincial and inter-state deal. To cover them federations of guilds were also organised since apparent from the sticks establish at Basarh, the ancient Vaishali. These guilds sometimes did control the funds of temples and offered monetary help to the government. Partnership transactions were general. Few of these guilds had their own militia to protect the person, property and merchandise of their members. Diversities of cloth, food-granules, spices, salt, bullion and valuable stones were the largest articles of deal. The deal was both through land and through river. Principal cities like Ujjain, Prayaga, Banaras, Gaya, Pataliputra and others were linked through roads. Goods were transported through carts and through pack-animals. River Ganga, the Brahmaputra River, the Narmada River, the Godavari River, the Krishna River and the Kaveri River were of great help for smooth deal. Ships were built. Tamralipti the contemporary Tamlik was a biggest port of Bengal and accepted on an long deal with China, Ceylon, Java and Sumatra. The southern ports accepted on long deal with the Eastern Archipelago, China and Western Asia. The items that were most exported were pearls, valuable stones, clothes, perfumes, spices, indigo, drugs, coconuts and ivory articles. The largest items of imports were gold, silver, copper, tin, lead, silk, camphor, dates and horses. The largest items of natural wealth were rice, wheat, sugarcane, jute, oilseeds, cotton, jowar, bajra, spices, betel nuts and medicinal drugs, products of forests and mines of valuable stones. Textile industry was the biggest industry. Then other crafts and industries like sculpture, inlaying, ivory job, painting and ship-structure sprang up. Livelihood was therefore extremely cheap in the Gupta era. The Gupta government had laid down several laws and regulations for smooth flow of deal, which also had convinced the economic life of the Guptas. The Smritis or law books had laid down the principle that it was royal duty to encourage deal and arts. the Guptas had also laid down several regulations on deal. It was said that imported commodities should be taxed at the rate of 1/5th of the value since a toll.

Agriculture throughout Gupta Empire

Agriculture was not at all neglected throughout the Gupta era in spite of the spread of deal. Agriculture held a significant lay in the economic life of the people throughout the Gupta era.

Agriculture was the largest job of the masses throughout that time. There was no contemporary zamindari organization like that practiced in Bengal or Uttar Pradesh. The tenants of a landlord not tilling the lands received 33 to 50 percent of the gross produce as their share. Land was regarded since as an extremely precious piece of property and it could be transferred only with the consent of the fellow-villagers or with the permission of the village or city council. Paddy, wheat, fruits, sugarcane, bamboo was cultivated in the cultivable lands. Land revenue was composed from several categories of land. State also owned meadows of cultivable land in several villages which was recognized since Rajayavastu. The state would take in excess of a land if there is no eligible heir or if the land tax was not paid. The land actually remained since a hereditary to the family of the grantee, however the king had direct manage in excess of that land. The economic prosperity reacted in Indian civilization and gave the people time and leisure to cultivate the finer arts of life. The Gupta kings also took special care of irrigation purposes for the promotion of agricultural economy in the Gupta kingdom. Therefore throughout the Gupta era, trade and agriculture both had achieved a thriving prosperity, which promoted economic life of the people, thereby attaining material prosperity.

PATTERNS OF TRADE, URBANIZATION AND LINKAGES: NORTH INDIA

Trade and Urban Growth c. 600-300 BC

The earliest Buddhist canonical literature, few Jaina texts and the famous grammatical treatise, the Ashtadhyayi of Panini (c. fifth century BC) offer precious glimpses of socioeconomic, cultural and political life. These canonical Buddhist texts are the Vinaya Pitaka, Dighanikaya, Majjhimanikaya, Anguttaranikaya, Samyuttanikaya and the Suttanipata. The literary proof will be compared and complemented with field archaeological proof of pottery, bricks, and ring wells. To this will be added the proofs of actual coins, which since metallic medium of swap emerged for the first time in Indian history.

In the light of these sources, the mainly evident changes are seen in political and economic life, which was of course intimately connected with social and cultural atmosphere of the era. For the first time in Indian history, we encounter the emergence of territorial polities, traditionally sixteen in number. Buddhist texts were also clearly aware of municipalities and cities, usually called since nagaras and puras, separate from villages. However the term nagara seems for the first time in the Taittiriya Aranyaka, a later Vedic text the regular references to municipalities in the Buddhist canonical texts firmly point to the emergence of urban economy and life in and approximately. This is also supported through archaeological proof revealing the actual remnants of urban centres. The proof of coins, already stated before, cannot but prove considerable advancement in trade since coins

primarily served since metallic medium of swap. The extremely word Janapadas stands for a populated territory. The subsistence of many mahajanapadas or territorial polities, of both monarchical and non-monarchical kinds, illustrates the consolidation of a domination building. These polities not only had a monarch or an oligarchical set up, but also efficient administrative organisation and powerful armies. The maintenance of administrators to administer the realms and of armies for offensive and suspicious purposes required substantial possessions. The principal resource foundation necessity have been the agricultural sector. The Buddhist texts and Panini's grammar similar speak of profuse amount of crops grown in north India especially in the transitional Ganga plains. It is significant to note that out of the sixteen biggest polities, seven prominent mahajanapadas were situated in the transitional Ganga plains. These polities necessity have prospered on the availability of the agricultural possessions, which were profusely generated. Since the rulers procured agricultural possessions by revenue events, it is apparent that the agrarian sector acquiesced the basic excess crop, also described the surplus. Crops were produced in excess of the actual require of the producing peasantry. This not only speaks in volumes of the advancement in agriculture, but the availability of the basic surplus was crucial to the maintenance and flowering of the non-agrarian sector of the economy. A combined testimony of Buddhist texts, the Ashtadhyayi of Panini and archeological artifacts designates the active attendance of diverse kinds of craftsmen like the vaddhaki, kammara, kumbhakara, kaulika, rangakara, rajaka, suvamakara, and manikara.

One of the salient characteristics of crafts manufacture - certainly indicating growth of the non-agrarian sector of the economy - is their variety and specialization. The most telling proof of this comes from archaeology. We have already pointed to the rising attendance of craftsmen in metals of which iron was certainly the mainly significant Ujjayini, Sambhar and Rairh, for instance, have yielded huge quantities of iron slag, which were smelted and given the form of required apparatus. This not only suggests the active role of the blacksmith in the urban life, but highlights the possibilities of impressive output of iron apparatus a considerable section of which are likely to have been manufactured for the market. From Atranjikheda have been exposed remnants of blacksmiths' furnaces in workshops which were situated within the residential region of the urban centre. That iron axes, chisels, knives and a some ploughshares began to happen frequently in archaeological contexts from c. 500 BC onwards is unmistakable. With the rising exploit of iron implements, copper apparatus became relatively fewer, the latter's exploit, though, sustained in the production of ornaments and toiletries, obviously catering to the requires of the urbane population. Drops of valuable and semi-valuable stones were widely asked through the jeweler for ornament creation. Impressive discovers of these drops in finished, semi finished and unfinished shapes from Ujjayini and Sravasti cannot but point to the attendance of jewellers in these municipalities. Champa, the

capital of Anga mahajan'upada has acquiesced a unique set of jewellery-rnoulds. There is small doubt that urban centre of this era experienced regular are of bricks, both sun-dehydrated and baked ones, for construction of monumental architecture and dwelling homes. The production of burnt-bricks implies the contrition of brick-kilns. One of the products for size consumption necessity have been potteries of several kinds. The Northern Black Polished Ware, manufactured mostly in locations from transitional Ganga plains, was perhaps a luxury ware. The Black and Red Ware outnumber} the NBPW. suggesting thereby that the latter was meant for size consumption and also for daily exploit. The scenario of urban growth has also to accommodate another aspect of the metal smith's craft: this relates to the manufacture of big number of coins, body punch marked coins and cast coins.

A comparison with the information on economic life gleaned from the later Vedic texts strongly suggests that there was a noticeable development in both agricultural and craft products. This in turn paved the method for regular transactions in exchangeable products. These preliminaries prepare our grounds for taking a secure seem at deal and commerce throughout the era from 600 to 300 BC.

Deal and Traders

Persons belonging to the vaisya varna were supposed to have followed the profession of merchants, just as to the Vedic varna organization; but the vaisyas were rarely accorded an honorable status in the Vedic norms. Deal was usually not held in high esteem in the Vedic custom. In sharp contrast to die Vedic attitude to deal and merchants, the Buddha viewed deal since one of the excellent professions beside with agriculture and cattle keeping. These professions were fit to be followed through persons of excellent pedigree. In an motivating dialogue the Buddha explains to his favorite disciple Sariputta die relative advantages flanked by agriculture and deal. Since agricultural operations are full of uncertainties, they require consistent care and supervision; handsome gain in agriculture is possible only when one is immensely successful in it. Deal, on the other hand is a less tiresome job with lesser responsibilities than agriculture, but it generates enormous profits. For a merchant there were four possible outcomes of his ventures: it could lead to a loss, the gain may not be since much since anticipated, the gain may be since much since anticipated and sometimes the gain could much exceed the expected profit. One of the regular meeting points of merchants and Buddhist monks was the urban centre which figures prominently in die Pali canonical texts. The monk and merchant were both essentially nomadic. Throughout the four months of monsoon the monks were allowed to remain at a fixed lay where also converged merchants. This may explain die intimate knowledge of the world of merchants in the Pali canonical texts.

Deal and merchants seem prominently in Jaina canons also, although these were later compositions. The excessive importance given to nonviolence in Jainism led to the belief that agricultural operations resulted in the killing of several plants and animals. Deal was seen in Jainism since the least violent profession and it was so lauded in the Jaina texts too.

That the merchants were involved in buying and selling of commodities is clearly apparent from the *Axhuuihyayi*. The general term for a merchant is *vanij/ vanik*. But a secure seem at Buddhist texts, the *Ashtadhyayi* and the Jaina literature suggests the attendance of a greater diversity of merchants than is sheltered through the common term *vanik*. There were *sartluivahas* or leaders of caravan traders, generally undertaking journeys to far destinations. The richest merchant usually figures in our sources since *sreshthi* or *setthi*. The conditions occurs for the first time in later Vedic literature but was only infrequently used. Literally meaning one having the best, the term *sreshthi* in the era under review seems more regularly in our sources and denote a fabulously rich merchant. He is called to have possessed eighty crores of wealth which is certainly a stereotyped figure and not an actual account of his riches. Panini was aware of merchants of Madra and Gandhara regions, respectively in the Sialkot area of Punjab and Peshawar-Rawalpindi regions of Pakistan. the grammarian also informs us in relation to the merchants dealing in cattle and horses. This illustrates the importance of merchants occupied in the deal in animals which were prized in the-then community. It is likely that textiles of Varanasi reached distant deal centres. The detection of lapis lazuli from the excavation at Sravasti, a valuable gem establish only in the Badakhshan region of Afghanistan, points to die availability of this exotic stone in the Ganga valley through an overland extensive-alooftness network. However merchants could have earned great profit in the deal in luxury items, catering to the requires of the affluent part of municipality dwellers, there were certainly transactions in daily requirements. When the Buddha, for example, is said to have met Belattha Kachchana, a merchant, die latter was moving with his carvan of five hundred wagons carrying molasses. It may logically be assumed that few merchants dealt in the transportation of food and salt from villages to municipalities, however such movements of edible items did not almost certainly cover great distances.

One is not certain to what extent the external deal of India was significant throughout this era. Textual sources are not explicit on this point. The north-western section of the subcontinent, including the lower Indus valley and the Indus delta, was connected up with the huge Achaeminid limpire in Iran due to Darius I's conquests of these regions. It seems on the foundation of the Percsipolis and Hamadan inscription of Darius 1 that he dush or the lower Indus valley up to the Indus delta became a province of his Empire sometimes approximately 518 and 515 BC. His Empire also incorporated Gandhara area. Darius I's military success in this area is also corroborated through

Herodotus in his History. Herodotus informs that Darius occupied Scylax of Caryanda to ensure the navigability of the river Indus and then frequented the 'southern sea'. The southern sea certainly denotes the Arabian Sea. It will be reasonable to infer that Darius I was keen to ascertain the importance of the Indus delta since an outlet to the sea. This could have been done with a view to aging down the Arabian Sea and reaching the Persian Gulf. Herodotus explicitly says that India, i.e., the lower Indus valley was the twentieth and richest 'satrapy' of the Achaeminid Empire, yielding 360 talents in gold dust since revenue. The importance of the lower Indus valley was perhaps due to its proximity to the sea which could facilitate maritime deal in the Persian Gulf zone.

PATTERNS OF TRADE, URBANISATION AND LINKAGES: PENINSULAR INDIA

The Deccan

In the Deccan an earlier rudimentary swap network lived which the Mauryas perhaps exploited. The opening up of the peninsula may have started initially from the 6 century BC with the effects of changes in the Ganges valley deal expanding southwards. From the Mauryan times this became more regular and rigorous, both due to political and economic impact resulting in secondary state formation and urbanization. The spread of the Buddhist religion and ideology was a biggest component of this impact. Hence the circuits which linked the Ganges valley with the Deccan may be recognized since those passing by central India via Sanchi/Vidisa and Ujjain, which is indicated through the Baveru *Jataka* charting the circuit followed through a *vanija* from Varanasi to Prathishthana by central India. Pauni, south of Nagpur, one of the earliest Buddhist locations south of the Vindhyas, may also have been on a biggest circuit since may be seen in the sharing of mid-Deccan locations linking it to the Andhra locations of the Krishna-Godavari delta. Sannati could well have been another location marking the southern circuit to Karnataka. Hence, the rapid spread of Buddhism led to the emergence of Buddhist monastic establishments with *caityas* and *viharas* in approximately all the locations with few centres since nodal points developing into large cities or municipalities such since Nasik, Sopara in western Deccan and Amaravati and Nagarjunakonda in eastern Deccan. The proliferation of Buddhist locations in the Andhra area is an significant indicator of this expansion of deal and swap networks. In information deal was significant for the monastic economies and the monetized swap which urbanized throughout the Satavahana and post-Satavahana eras. Excavation of vast rock-cut caves and structure of monumental *stupas* and *caityas* in stone and brick, the provision for monastic estates through ruling families and merchant organisations, investments with guilds for regular income and cash transactions, especially purchase of requirements like cloth and sale of the produce of monastic estates made the deal network significant for the monasteries. The Nasik inscriptions refer to the expenses for minor requirements and the

Kanheri inscriptions record money endowments to ascetics and nuns. The Kuda inscriptions record donations of both land and money for images, *vedika* and cisterns. This attests to the information that the monks and nuns retained their worldly resources after joining the *Sangha*/ order. The dichotomy flanked by theory and practice is underlined through the information that however the *Vinaya Pitaka* restrained the exploit of gold and silver through sure *samanas*, and the *Jatakas* denounced *bhikkhus* indulging in deal, in practice the monks did. *Buddhaghosha* expresses a liberal attitude saying that gold and silver are acceptable if the proceeds of the property and the transactions were administered through laymen i.e. a body of regular officials for management. Separately from the monasteries the merchants themselves appeared since organised clusters like the *Nigama* which led to organised deal and craft manufacture in the Western Deccan and the Andhra area. Manage and coordination of external swap dealings looks to have been exercised through political power like that of the Satavahanas, by negotiations through gifts or presentation. The *Arthasastra* of Kautilya refers to state machinery fixing the prices of several commodities in what is called through Karl Polanyi since “administered deal”. The *Arthasastra* refers to the collection of *sulka* at the municipality gates and affording defense to the traders with caravans, when they stayed in villages. The *Jatakas* would, though, indicate only a marginal manage in excess of the economy through the state. The intricate mechanism of deal, commercial transactions at dissimilar stages were to a big extent governed through the nature of the commodities handled, while the king could well have decided the price or value of the commodities he consumed.

The *Sarthavaha* or leader of merchants was the mainly influential of the traders and led his caravan by unfriendly areas like desert and forests almost certainly with the help of guides and protected the merchandise with the help of mercenaries. The *sagara palagavas* mentioned in a Kanheri inscription are whispered to be a society of traders. There were nomadic hawkers and peddlers. Literary texts distinguish flanked by *vanij*, a common merchant and the *setthi*, the financier and the *Sarthavaha*. The Satavahana inscriptions refer to the *setthi*, *vanij*, *negama* and *Sarthavaha*, the *negama* being a market city. The merchants obtained goods either at the ports or through mutual agreement with others livelihood beside the border. There were weekly markets and fairs, while regular shops lived in urban centres, since indicated through the *Jatakas* referring to the ivory workers’ street, shops of perfumers and florists.

The crafts were also organised and had their own *srenis* or guilds of which the traditional number mentioned in the *Jatakas* is eighteen. References to the *senipamukha*, the distinction flanked by the master craftsman and *Jetthaka*, *Kamma jetthaka*, master garland maker and master mariner in the *Arthasastra* and the *Jatakas*, imply craft organisation with apprentices and masters. Inscriptions of the Deccan also record investments made with several guilds – such since *vasakara*, *kasakara*,

havasa, *kularika*, *odayantrika*, oil millers. In Govardhana, donations made through the guilds such as since *dhanika seni* and the banker's guild are recorded. Several more professionals are recognized through conditions like *manikara*, *suvarnakara*, *heranika*, *lohavanij*, *sela vadhaki*, *godhika* and therefore on. The craftsmen look to have specialised their crafts in villages in the vicinity of cities/municipalities, few of whom worked on their own with a number of apprentices or else organised into guilds, which acted since banks.

The complexity of the swap organization and increased division of labour are indicators of economic development. The growth of guilds to organize and monitor intricate commercial transactions are attested to through the Nasik inscriptions recording investment in two distinct weavers' guilds at Govardhana, charging dissimilar rates of interest and referring to varying qualities of cloth and dissimilar types of textiles. Literary references also indicate a complexity of commercial transactions from the nomadic trader hawking his goods at the bottom of the level to the guilds at the top. The *Jatakas* also speak of a combination of monetary transactions and barter in the economy, both in internal deal and in external deal.

The use of the commercial network required a sound agricultural foundation and hence the proliferation of settlements in the fertile valleys of the western Deccan. Migrations and the growth of new agricultural regions resulted in a weakening of the old social building leading to the growth of new networks of relationships. Monasteries stepped in at this juncture to fill the void and propagated the interdependence of monks and place followers. Big donations were made through rulers to monasteries. Gift of villages to the *Bhikkhus* and the monasteries through the Satavahanas from the early 1 century BC illustrate that monastic establishments acquired greater wealth; donations were increasingly made through rich citizens and wealthy workers. Money was invested with guilds, the interest from which was to be paid to the monasteries

The centrality of society patronage in Buddhism and to the Buddhist *Sangha* is marked through donations from several families and guilds of artisans and merchants, women donors, little-level landowners and others, replacing kinship networks of manufacture and sharing through a network of a society recognized through religious practice. From the perspective of the socio-political function of such a conversion and transform, there was an even more significant association, that of the nexus flanked by the ruling family, the Buddhist *Sangha*/order and the *Srenis*/guilds of artisans and traders. Donations from a member of the royal family to the *Sangha* were deposited with the guild of weavers, stipulating that the interest would go towards providing for the monks and other sundry expenses set up this nexus.

Eastern Deccan – Andhra Pradesh

The transition from the proto-historic Megalithic to the early historic civilization is crucial in the developmental procedures of the swap networks, deal and urbanism. Proof of the transition is establish in a number of Andhra locations, from the pre-Satavahana stages and early historical layers of job. They spot the emergence of localities on behalf of early historical locations and the transformation of community towards state civilizations enabling the emergence of the Satavahana state.

Urbanization

Internal growths and external impetus both in urbanisation and state community/building are attested both in the shape of interaction with north India, western and central Deccan, particularly the power of the economic manage of the Mauryan metropolitan state and the regions of mineral possessions. The Andhra area gives equally significant proof on the expansion of deal and craft manufacture in the pre-Satavahana era, which under the Satavahana and Isaac rulers witnessed a transition from a clan based community to one organised on professional and occupational rows. It also marked the emergence of kingship and local state formation since a secondary growth due to Mauryan impact and commercial growth, both due to inland deal and links with the other sections of Deccan and even north India in the Mauryan and post-Mauryan eras. There is proof of an initial expansion of the agrarian foundation of the economy especially in the river plains and delta, craft specialist ion and subsequently overseas deal. Few areas illustrate a separate pattern of crafts based on regional possessions, like iron and metals, which through itself provided the impetus to urbanisation and organised commerce and were hence drawn into the early historic urban procedures, although they sustained to be kin-based organisations, since for instance, in Central Deccan, where many centres with mud fortifications and proof of regional chiefs or powerful elite clusters exercised manage in excess of manufacture. Three centres are of special significance due to systematic excavations, such since Peddabankur, Dhulikatta and Kotalingala where the transition from the proto-historic Megalithic civilization to the early historic urban procedures are recognizable in the archaeological material. The question of urbanisation is intrinsically related to this transition. The transition from the proto-historic to the early historic stages–i.e. the links in the exhumed locations is significant, since they give the local perspectives, which are equally significant for the broader peninsular and sub-continental growths. The antecedent civilizations accessible in this area persist since “non-urban” shapes in the early historical stage, which is when urbanisation is supposed to have reached its high watermark in the Deccan since a entire. However many locations in dissimilar sections of the Deccan have been exhumed, no integrated picture of the levels in the development of

the second urbanisation in these sections, or the character of the individual settlements situated there in, have been brought forth. At the similar time considerable proof for get in touch with Roman deal can be mustered and this external deal since an significant variable for the stimulation and development of Deccan urban centres cannot be denied. Nevertheless the question of incentive from both the Mauryan intrusion and Roman get in touch with at the micro-stage requires to be understood. For in this area, proof of the impact of the exploit of and sharing of iron technology in excess of the well recognized Neolithic and Chalcolithic agrarian societies looks to be accessible. It has been observed that Andhra Pradesh is the 'richest region therefore distant since historical locations are concerned' which are said to range from the 3 century BC to early medieval times and further, that several of these are invariably noteworthy because of Buddhist affiliation like *Stupa* complexes and *Viharas*. Other locations such since Dhulikatta, Chandavaram, Kotalingala, Satanikota, Keesaragutta and Peddabankur, have acquiesced general data, but coordination of the archaeological proof from these locations is still awaited.

Inscriptions are more numerous for the early centuries AD and literary references from Indian and classical writings since also art and architectural remnants are significant for the latter half of this era i.e. the early centuries of the Christian period. Hence primacy is to be given to archaeological sources which reveal earlier resolution patterns. At Kotalingala remnants of a mud fort; wharf, a palace intricate, residential quarters and granaries have been noticed. The mainly outstanding structural monument is the Buddhist *stupa*, almost certainly of pre-Satavahana date, marking the beginnings of Buddhism in the mid-Godavari valley. Peddabankur has no fortification but is a substantial and well inhabited location with few industrial structures separately from *Caityas* and other religious buildings, all plain and easy "but quite efficient and skilful".

Residential quarters and palace intricate indicate the attendance of a sort of ruling class or dominant cluster at Dhulikatta and Kotalingala. Coin discovers also indicate politically powerful clusters even from pre-Satavahana times, who may have been Andhra kings. Therefore, a confederation of petty and tribal rulers and other kingdoms controlled through Andhra kings may be situated at Kotalingala, few of the ruling clans belonging to powerful landowning agricultural societies. Peddabankur and Kondapur seem to be Mint centres.

They had an self-governing political and economic subsistence and in view of the diversity of coin kinds at these centres, the obvious conclusion would be that the local economy was dependent on deal and commercial transactions of a sure magnitude. Craft manufacture in scrupulous was evidently one of the mechanisms by which regional clusters participated in spheres of economic action like deal and commodity manufacture. Iron and metallurgy were practiced since house industry. In Peddabankur a terracotta forge unearthed in excavations points to the craft of iron

forging. Deal was stimulated not therefore much through the export of an agricultural surplus but rather through the supply of iron substances and other related commodities. Since centres of manufacture Peddabankur, Kondapur and other locations have big number of coins of several kinds, terracotta, bead materials, proof of working in valuable and semi-valuable stones and pottery creation on a big level. In the mid-Godavari intricate the artisanal clusters with strong kinship ties persisted in the organisation of their job. These locations were linked to Ter and beyond to Vidisa and Ujjain. Inland deal stimulated the development of new regions of economic action in a area not supported through a big and long agrarian foundation. Several such historical locations are establish clustered jointly in the mid-Godavari valley, but not all of them were urban. Interdependence in the middle of these locations illustrate that tribal/itinerant population was also integrated into the new economic organization.

Heterogeneity in the social building appeared with the changing context and references to *gahapatis*, both agricultural and merchant clusters, separately from artisans. Buddhist monks shaped a established leading cluster of the population. Dominant social clusters in the area maintained the networks of deal and manufacture resulting in the rising strength of sure regional elite. Political domination in pre-Satavahana era was necessarily segmented, but under the new forces of social transform, begun since a consequence of expanding agriculture and mercantile behaviors which enabled the well settled tribal societies to interact with each other efficiently, it became possible for the early Satavahanas to set up a superior network of political and economic manage with the mid-Godavari valley since their nucleus.

Andhra is traditionally recognized for its “walled cities”, few of which may well have been of pre-Satavahana date with regional chiefs or powerful elite. Many such clans are recognized from the inscriptions of Amaravati and Nagarjunakonda, two biggest urban centres of the early historical era, which were also politically significant centres of the Satavahanas and Ikshvakus. Names like Dhanaka, Kubiraka and clan chiefs like the Mahatalavaras of Andhra and the Maharathis of western Deccan may also be of same lineage clusters that later came to be subordinated through the Satavahana and Ikshvaku rulers. Frequent references to *gahapati*, *heranika* and *vaniya*, *sethi* since also the *Sarthvaha* in the Andhra inscriptions point to the changing social context and economic organisation, i.e. from clan affiliations to organised economic clusters and their professional and occupational foundation. Society patronage was crucial to the growth of the Buddhist *Sangha* with their *stupas* and *viharas*. Communal donations giving lay to individual ones indicate the emergence of private property. Amaravati, a biggest nodal point in this network, with its *mahacaitya* was more commercially oriented with the predominance of *sethis* or bankers, while Nagarjunakonda had greater dependence on its agrarian foundation.

External deal was a second biggest factor in the procedures of transform and the western deal i.e. with Rome and the eastern Mediterranean assumed great significance for the area's urban growth. Presently since Sopara for western Deccan in the 2 -1 centuries BC, the eastern Deccan ports played a more significant role in the 1 and 2 centuries in the Indo- Roman deal and sustained to do therefore in the 3rd-4 centuries for the south east Asian deal also. Claudius Ptolemy refers to the ports of Kontakosyla, Kodura and Allosygne. Apheterion meaning point of departure was another port in the Maisolia area. Other locations of commercial importance are Alluru, Adduru, Garikapada, Gudivada, Gummadidduru, Jaggayyapeta, mainly of which have Buddhist associations, the largest centres of nodal importance being Amaravati and Nagarjunakonda. These two municipalities have approach up with proof of urban places, buildings of political and religious significance, separately from inscriptions and silver Punch Marked coins, Roman gold coins, Satavahana coins, Black and Red Ware and Rouletted Ware and inscribed ivory seal in the middle of the several archaeological material remnants.

Maritime Deal

The importance of sea deal accepted on both through Indian merchants and through foreign merchants i.e., Arabian and Mediterranean merchants, in the early urbanisation procedure has been recognized and the Classical explanations through Greek and Egyptian geographers and travelers have proved to be of immense value since they include details of the items of export and import since also the ports from where they were shipped or composed. The biggest destination of the export commodities was the Roman world, while the Persian Gulf and the Red Sea were both a destination and transit zone. From southern Arabia and Cape Gaurdafui raw materials like iron, copper and silk were reworked and sold since finished products. To Alexandria and the Roman market, separately from timber from Bharuch, ebony, bamboo etc. were exported. Alexandria was also an significant centre for the production of dissimilar types of metal job, glassware, perfumes, unguents, and other aromatic products. Indian merchants moved flanked by India and Alexandria. The Red Sea deal was significant and the trading centres and ports on the Red Sea were well guarded under Roman power. Till 297 AD Palmyra was the best documented centre of Rome's eastern boundary.

The *Periplus of the Erythrean Sea* gives proof of the nature of commodities both of import and export. From Barygaza were exported agricultural products in swap for frankincense, tortoise shell and rhinoceros horn. The majority of export items was in the shape of raw materials and was exported by the west coast in the early stage of this inter-local and extensive aloofness deal separately from bulk items like ebony, teak, Blackwood, sandal wood, bamboo, tusks of ivory and iron, separately from aromatics—spikenard, bdellium, costus, lycium and saffron, which were easily portable; Spices like extensive pepper, malabathrum, and cinnabar were of medicinal value and

sesame for oil and spice. Dyes such as indigo and lac, semi-valuable stones like agate, red jasper, carnelian, and onyx and exotic birds are also mentioned through the *Periplus*. Manufactured items incorporated textiles, broader Indian cloth described *monakhe*, *sagmatogenai*, garments described *gaunukai*, mallow cloth and few muslin.

Since for raw materials, it is not simple to identify, in all cases, the lay of origin and how these possessions—both money and transportation for their procurement—were obtained. All the woods exported are indigenous to the peninsula. Teak came from the Satpura range, blackwood from north Konkan and central India, Western Ghats, ebony and sandalwood from the Malabar coast, Bharuch being the entrepôt for wood from Malabar and Indonesia.

Aromatics, a biggest thing of export consisted of bdellium from the Tapti basin, Sind and Kathiawar; semi-valuable stones—agate, red jasper and onyx—from the Deccan; muslins and mallow cloth from Ter in Deccan, a cotton rising region; indigo from western India; spikenard from the Himalayas and also Ujjain; costus from Kashmir; malabathrum from the southern slopes of the Himalayas and also the north Kanara district. Lycium was sent to Rome in rhinoceros and camel skins through Indians. Raw cotton from India reached Alexandria and cotton fabrics of India were sent from several areas of the north and south, those of the Deccan and Tamil areas in the south being of considerable diversity and fine texture. Silk also a biggest export thing, was a section of the transit deal, since the Central Asian Silk circuit came to be abandoned due to consistent movements and hostility of the Central Asian tribes in the early centuries before and after the Christian period. Indian iron was an significant export thing. Iron smelting has been situated in many excavations, Vidarbha—Maikund and Kodumanal in Tamilnadu situated close to the iron ores of Salem, being a biggest source.

The nature of imports varied since it incorporated both essential and luxury items. The *Periplus* refers to frankincense and tortoise shell in swap for granules. Other items were wine, dates, glass, tin, lead, copper or antimony, realgar, coral, gold, and silver coins, vessels of silver, singing boys and maidens, drops, rings, lamps, sections of wine jugs in excavations, carved alabaster, lapis lazuli, a tiny fig of lapis lazuli at Brahmapuri, lamps manufactured through Yavanas, Brahmi inscriptions from Alluru, Krishna district, recording gifts of such lamps. Diversities of glass drops contain blue glass drops; faience and kaolin were used since raw materials for pottery, mirror handles and necks of unguent bottles. Kaolin also led to growth of sculpture in western Deccan. In the western Deccan locations are established shell bangles, ivory seal matrix, ivory statuette, which could well be manufactured items from both indigenous and foreign sources. Likewise, metal—iron and copper—for apparatus and implements and also for utensils, etc., may be of both regional and foreign sources, while antimony rods and silver established occasionally in excavations look to have been

imported. Demand from Indian markets was for lead, tin, coral, glass, and wine and specific products from few regions. Ceramics from the Mediterranean or bronzes made in Campania are more likely to have approach via the regularly used Red Sea circuit than to have tangled with Parthian hostility.

Transport

The *Periplus* says that goods were accepted through wagon flanked by Paithan and Ter in the Deccan and Baruch, a aloofness of 150 km. The sea circuits to the west place by the Persian Gulf to the Red Sea. Indian ships sailed on a coastal circuit, a regular traffic for collecting and distributing goods, connecting the western ports on the one face and Arabian ships from the Persian Gulf sailed flanked by the western coast and southern Arabia, Somalia, Axum and Egypt on the other face. The biggest ports place on the west coast such since Bharuch, Kalyan and Sopara on the Gujarat and Konkan coast, Nelkunda-Kottayam, and Bakare and Muciri on the Kerala coast.

Ships

The bulk of the cargo was shipped in Greek and Roman vessels, which were built with secure set mortise and tenon joints and nails. Arab vessels were made of planks of wood fastened jointly and to the keel through means of coir or palm fiber threads. Indian ships followed a same technique, the planks being stitched jointly through means of ropes and were also fastened through wooden dowels.

The *Periplus* refers to foreign vessels described *kotumba* and *trappaga*, Indian trading vessels described *sangara* and *kolandiphonta*. *Sangadam* in Tamil was a double canoe meant only for river traffic. *Kolandiphonta* were big vessels meant for overseas voyages to Malaysia. They were almost certainly two misted vessels with stout outriggers and were the counterparts of present day Sinhalese *yatra oruwa*. Textual references to ships even with three masts are made in the *Jatakas* and the *Amarakosa* of Amarsimha. Satavahana coins of Yajna Sri Satakarni illustrate a double misted ship with sail and pennant. Beside the Konkan coast Arab vessels plied with the south west monsoon and their halt at Indian ports was of short duration. The voyage to India involved high risk and hence the visits had to be well intended. Perhaps there was a well organised chain of brokers even in this era since later in the 17 century AD.

The largest carriers of goods were the Yavana ships, particularly Greek. The *Periplus* refers to little kinds of vessels used through natives for coastal traffic. Tamil conditions like *kalam*, *vangam* and *navay* refer to big boats and *pahri* to little ones. Though that Indian traders traded since distant since the Red Sea is now recognized from the Quseir-al Qadim inscription on pottery with Tamil names and later early medieval sources indicate the exploit of their own ships to the south east Asian area through the Tamils with their captains, presently since the Malaysian traders did in the early

centuries of the Christian period. The Tamil texts create unambiguous references to the sea faring instincts of the Tamils and their chiefs and their knowledge of ship structure.

Tamilakam

Inter-local deal, overland and coastal, flanked by the Ganges valley, Andhra and Tamil areas and flanked by the Gujarat and Kerala coasts looks to have started even from pre-Mauryan times but is clearly attested from the Mauryan times. Though the degree and nature of Mauryan power varied from area to area and in Tamil Nadu it was minimal. It was the sea deal that led to the transition from the Megalithic to early historical eras, which spots the end stages of the Megalithic and the beginnings of urban procedures.

Urbanization

Urbanism in Tamilakam was a secondary growth. The Sangam rulers, both the Vendar, who were powerful chiefs and the Velir, who were minor chiefs, had a separate concern with maritime deal and its manage, either since active participants in it or since biggest consumers of luxury goods, developing ports of deal, levying tolls, and issuing coins.

From Maritime deal, which seems since the crucial and determinant factor, the much needed luxury items since possessions for socio-political dominance and patronage reached the centres of the biggest ruling lineages like the Cheras, Cholas and Pandyas, who sought manage in excess of the coastal areas nearest to their mainlands and to regulate extensive aloofness deal. In information there lived dual centres of domination for each of these ruling families. Both the three Vendar and minor chiefs like the Tiraiyar had a political centre in the interior and a port on the nearest coast. Urbanism was therefore restricted to the marutam and *neital tinai*s or eco-zones which they controlled. Craftproduction urbanized in regions rich in mineral possessions and raw materials since in the Kongu area. Weaving since a biggest craft may be situated also in Uraiyur, Madurai and Kacci, the seat of the Tiraiyar, the later Kancipuram. Exhumed remnants like dyeing vats in Arikamedu and Uraiyur give additional proof of the production of textiles and the weavers' craft and its importance.

A biggest source of proof, i.e., the Tamil Sangam literature, not recognized to the Deccan areas, is accessible for the early era, which gives motivating details of the deal with the western and eastern areas, which is complemented to a big extent through the early Tamil Brahmi inscriptions and the Greek and Latin works. This corpus is of great value to an understanding of the area's socioeconomic organisation and the impact of the western deal. The *tinai*, a dominant concept in these works of heroic poetry, is vital to understanding the uneven nature in the socioeconomic milieux, the vital tribal character of community and its kin-based manufacture dealings. Social

differentiation, the nub of the problem of urbanization, is hardly attested except for in the eco-zones—*marutam* and *neital*—pointing to a non-stratified, clan or kinship based organisation with ranking only in the middle of the chiefs and ruling lineages. Redistribution was by gift of two types, one of existence stage goods and the other of prestigious goods through ruling lineages to the *panar* and *pulavar*. Gift was an significant component of the ideology of this heroic age and was made at three stages the Vendar, Velir and Kilar for their ideo-technic or socio-technic value. Possessions controlled through the dissimilar chiefs were coveted through one another since a means of enhancing their domination and hegemonic status by gifts. Plunder and loot of such possessions and other items from deal were general and therefore the items looted or traded in entered the gift swap.

The impact of the Mauryan political buildings was minimal in Tamilakam, in which the early lineages of the Cheras, Cholas and Pandyas are regarded through the Asokan edicts since neighboring or border peoples/chiefs. The nature of patronage extended through the Deccan rulers like the Satavahanas to Buddhism, which was the dominant ideology of the early historical era and which brought in relation to the a symbiotic connection in the middle of the political building, commercial clusters and the Buddhist monastic orders, did not exist in Tamilakam. The variation in Tamilakam is marked through the absence of Buddhist monuments of stupendous dimensions like the *stupas* and *viharas* of the Deccan, both in the rock cut and structural manners. Organizations like the Buddhist monastery and cohesive guild organisation are also not recognized to Tamilakam, where merchant organisations are not visible in the inscriptional records except for the *Nigama* in a single example. Buddhism and Jainism are bigger attested in the post-Sangam epics, *Silappatikaram* and *Manimekalai*, in politico-commercial centres since influential ideologies. While the Tamil Brahmi inscriptions spot the attendance of more numerous Jaina ascetics on the inland deal circuits, Buddhism has a visible attendance in the coastal locations since recognized from excavations. Further, the variation flanked by the Deccan and Andhra inscriptions and the Tamil Brahmi inscriptions is also significant in that the latter do not refer to *gahapatis* or householders same to those of the Deccan. Possibly the *kilan* or *kilavan* of the Tamil poems and *antai* of the inscriptions refer to such householders, who were also patrons. Though the method in which the society of Buddhists evolved in the north and the Deccan is not a section of the procedures of the social transformation that was taking lay elsewhere. The spread of Buddhism and Jainism in Tamilakam coincided with the augment in deal and commercial action and led to heterogeneity in the urban centres, both interior and coastal.

Dissimilar Stages of Swap

The swap organization consisted of dissimilar stages, barter and loan of goods in regional swaps, no concept of profit interesting such swaps, since, for instance, for items of daily

consumption such since honey, fish, meat and toddy separately from granules; paddy and salt entered the superior swap network, in which items like pepper, pearls, valuable stones,, aromatic wood, cotton textiles were meant for overseas swap markets. There were more raw materials and some manufactured items for export. The Tamil area's possessions passed by inter-*tinai* swap i.e., from one eco-zone to another, either for consumption or to enter into extensive aloofness deal by the biggest ports. The chiefs may also have obtained them through plunder for onward transit in return for their items of import or high value goods. Money was only one category of valuables. Two separate stages of swap look to have lived i.e., regular economic interaction within Tamilakam and external swap and their inter-connection. Numismatic proof also points to two stages of swap. Goods for goods and goods for coins were exchanged at the large emporia of deal, while barter remained the largest shape of swap at the regional stages and day to day swap behaviors i.e. purely localised existence swap. The sharing of Punch-Marked coins and Roman coins illustrates a pattern of occurrence in hoards beside the biggest deal circuits pointing to high stage swap or biggest transactions with big outlays and monetisation.

The many conditions occurring in the Sangam works referring to dissimilar types of traders are significant pointers to the prevalence of hawking, peddling and higher stage of swap systems. These are *Vilainar*, *pakarnar*, *Vambalar*, *vanikar*. The *Paratavar* were the mainly distinctive of such merchants in the *neital* or littoral/coastal region, where fisherman described *Paratavar*, started deal in fish and also became pearl fishers on the southern coast, slowly improving their status through directly entering into swap with foreign merchants. Their residences in the port of Nirppeyarru, since called through the *Perumpanarruppatai* are suggestive of a wealthy society of fishers and traders, who became economically significant in the 1 and 2 centuries AD due to the rising involvement of the east coast in the Roman and south east Asian deal. *Umanar* were salt manufacturers and sellers who traded salt for grain from the interior and moved in caravans when necessary. There were caravans of others like the *Vambalar cattu*, who moved with their goods, protecting their merchandise with mercenary fighters. The *uppuvanikan*, *panita vanikan*, *kolu vanikan*, *aruvai-vanikan* and *maniy-vannkkan* are specialists in deal of specific commodities and their names with lay names since prefixes and items of deal since section of their identity would illustrate that the nature of merchandise was stated clearly both in literary texts and epigraphic records..

In Madurai there were many types of sellers ranging from the hawker to the merchant who was section of the caravans and who traded with the foreign merchants. The Madurai streets since called in the *Maduraikkanci* and *Nedunalvadai* indicate a busy trading centre with all types of shops ranging from gem and jewels to every day consumption goods since also the attendance of traders from outside. In the epics deal is glorified since an 'esteemed pursuit'. Except for the occasional

caravans of nomadic traders who accepted goods to the hinterlands from the ports and possibly also returned with goods to be shipped from such ports, proof on guild organisation is tenuous, *Nigama*, being mentioned in a single inscription and not comparable to that of the Deccan. The story of *Silappadikaram* centres approximately the son of a Masattuvan, a great caravan leader.

Markets of the day and of the night were general in biggest urban centres. In Puhar, the municipality was divided into the residential region i.e., *Maruvurpakkam* and the port region i.e., *Pattinappakkam*. The volume of deal in the ports was impressive since indicated through the reference to “ the precious merchandise stored in million bundles” in the *Pattinappalai* and *Maduraikkanci*. Puhar had a well guarded market, the Cholas controlling and promoting ports. This port would fit in with the account of a “Gateway Municipality”, since the biggest inlet for all the goods from the western and eastern deal to enter the south Indian market since also the outlet for the possessions which were in demand in the Mediterranean world.

Since a market organization and a definable domination building were essential for an inner development of urbanism and as these were away in the area, the markets that lived were 'peripheral markets', which were economically significant to those occupied in export and import. To foreign traders, though, they were not peripheral. The attendance of Yavanas in such market centres and their settlements, archaeologically attested, would suggest their role since significant entry points and outlets for the overseas deal.

Inter-Local Deal: Shifting Patterns

In each area, since seen earlier, the pattern of deal varied just as to the nature of swap and regional routes of deal. In Tamil Nadu it was an expansion from Megalithic routes to regular swap networks in the early historical era. There were early routes flanked by south India and Srilanka and Bengal to the Tamil coast, almost certainly with Srilanka since the terminal point. This regular traffic on the east coast and Srilanka is attested to through the early Brahmi inscriptions with Tamil names of Velir and merchants in Srilanka and Srilankan attendance in the Tamil coastal cities and Andhra Buddhist centres, possibly even from the Mauryan era. Into this entered Roman deal with Srilanka becoming the biggest entrepote for the wider network of deal including south east Asian countries in the early centuries of the Christian period, the links with south east Asia being yet another route continuing up to the 4 -5 centuries AD and into the early medieval era even after the decline of the Roman deal. The two Tamil epics give proof of this expansion linking Kanci with Java, Sumatra and Srilanka, Thailand.

The Andhra Buddhist locations and their links with China and Indo china are reflected in the art of Champa being substantially convinced through that of Amaravati. In the Tamil locations also are noticed little art substances like rings and sticks with intaglio, recalling the approach of the

Amaravati art. These shifts led to the wider swap network of terminal and transit deal and convinced intra- local deal in Tamilakam, i.e., the inter-*tinai* swap for procuring the possessions of dissimilar eco-zones.

It has already been stated that Roman deal was spread in excess of a extensive era with a big geographical reach. But it was not uniform in all areas at all times. Initially it concentrated on the west coast from Gujarat to the Kerala and Tamil coast with an overland link to the east. Direct sailing with monsoon winds from the Red Sea to the west coast since also circumnavigation of the Cape, slowly shifted its movement more towards the east coast and Srilanka and from there to the Andhra and Bengal coast. Srilanka was a biggest entrepote in it. It was an early terminal point and picked up items from south east Asia brought to the south Indian ports through both Indian and eastern merchants. From the Tamil coast the deal came to be more and more directed to the eastern coast i.e., to Andhra, Orissa and Bengal coasts in the centuries after the beginning of the Christian period, while ports on the west coast like Muziris did not lose their earlier status since biggest ports of deal.

The ports and coastal cities which were directly involved in this deal also illustrate the nature of shifts in the trading routes and their links with extensive aloofness western deal. The sharing of Roman republican coins and imperial issues also confirms the direction of transform towards the eastern coast especially Tamil area and Andhra. The Greek and Latin texts have clear proof of the periodical changes in the biggest port of entry and the coastal circuits and routes. The *Periplus of the Erythraean Sea* dated to the first century AD refers to Naura and Tyndis after the ports of the Konkan or Bombay and north Kanara coasts, Naura recognized with Cannanore or Mangalore and Tyndis with the Tondi of the Chera coast. This is followed through Nelcynda and Bacare or Porakad all on the west coast and beyond them the area described Paraliya, where Balita or Varkalai, Comari or Cape Comorin are situated and to the ports of Camara and Poduca and Sopatma on the east coast. Ptolemy in his *Geographia* of the 2 century AD adds emporia of deal such since Muziris, Kolkhoi or Korkai of the Pandya coast on the east, Khabaris, Sabouras, Podouke, Melange and Manarpha. The importance of Puhar since a biggest entry point to south India is also attested through the Tamil job *Pattinappalai*, which defines the two largest sections of the municipality, the Pattinappakkam and Maruvurpakkam, promoted through the Cholas who built the harbor, the quay and warehouses with administrators for tax collection allowing foreigners to settle down in distinct quarters. With circumnavigation creation the approach to the eastern coast easier, the eastern ports and cities gained special importance in this deal in the 1 -2 centuries AD. Hence if the Chera port of Miziris was the earliest port of call and functioned since the biggest port in the 2 and 1 centuries BC, it sustained to

be therefore but with the addition of the eastern ports like Puhar and Korkai becoming both biggest ports and emporia of deal and drawing the south eastern route into the western deal.

The Gulf of Mannar, flanked by south India and Srilanka with its pearl rich coastal and island centres like Epidioros and Kory or Dhanushkoti and the Srilankan island described Palaesimundus and Taprobane called since the land of elephants, gold, and pearls, valuable stones and marble resembling tortoise shell, became more available and significant in the western deal in the 1 to 3 centuries AD. The lay described Argaru, often recognized with Uraiyur, the Chola capital on the Kaveri, since the centre of the production of the cloth described Argaritic, is now whispered to be situated in the area close to the Pandyan coast, but the picture is hazy in therefore distant since its correct site is concerned. The unique fine cloth resembling vapor is associated with the Tamil area and was exported to the Roman world where it had great demand.

The urban centres that urbanized since a result of inter-*tinai* swap and politically powerful chiefs like the Cheras, Cholas and Pandyas participating in the deal since the biggest consumers and patrons and through issuing dynastic coins, in addition to by Roman gold and silver coins both since prestige items of gift and for big transactions, are represented through dual centres of domination. For instance, the Cheras had Vanci or Karuvur and Muciri since their internal and coastal centres, the Cholas had Uraiyur and Kaverippumpattinam and the Pandyas urbanized Korkai in addition to Madurai since their centres. Minor chiefs like the Tiraiyar of northern Tamil Nadu had Kacci and Nirppeyarru since their dual centres of domination and commercial importance. Other east coast centres which have approach up with substantial proof of the western- Roman deal are Alagankulam, which had direct access to Srilankan coast and Arikamedu, which is a biggest exhumed location with Roman artefacts and other structural remnants separately from a Yavana resolution, often described a Roman trading station. A big craft centre urbanized in Kodumanal close to the Chera capital Karur and situated in the Kongu area i.e. Coimbatore area. It was a gem and jewel manufacturing centre, with Padiyur and its beryl mines surrounding and iron industry with iron ores situated in the region. Roman coin hoards are establish in their greatest concentration in this area and on the highway linking the west coast with the east and even the Karnataka–Tamil overland circuit. The excavations at this centre have been one of the mainly fruitful in conditions of the transition from the Megalithic iron age burial and habitation settlements to the early historic commercial and craft production regions in south India. It also had secure links with the Andhra locations of Amaravati since seen in the approach of the intaglio on rings and ornaments establish in this centre, jointly with the attendance of the Deccan merchants with Prakrit names interacting with the regional Tamil merchants.

Tirukkoyilur in the south Arcot district, yet another chiefly centre of the Malaiyamans, where an early Tamil Brahmi inscription mentioning the Satiyaputra or Atiyaman has been established, is also significant for the Roman connections since a big hoard of Roman datable to the 1 –2 centuries AD has been unearthed in the area.

Articles of Deal

The *Pattuppattu* refers to extensive aloofness deal in pearls, chank, bangles, tamarind, fish, gems and horses, however specific items of export and import are not always clearly distinguished. The transit goods- en circuit to the Roman empire, few of which also entered the internal swap of Tamilakam, were spikenard from the Ganga area; silk from China, tortoise shell from south east Asia and the islands close to the Kerala coast. The Tamil anthology *Pattuppattu* mentions mainly of the items of transit and terminal deal. When the transcontinental silk circuit linking China with the west became inoperative due to the disturbance caused through Parthian movements in Central Asia, approximately the first century BC, several of the goods including silk were being deflected, beside with ports on the western coast to the Coromandel by the south east Asian ports. For this the Indian and Malay vessels necessity have been used to transport the merchandise from the Malacca straits to the Coromandel coast, from where the Greek ships composed them. The source and direction from which these articles came are not often recognized or mentioned in the Tamil texts. Silk came from China by many circuits. One brought it to the Ganges valley, from where it may have reached Tamilakam and entered the internal route of swap and since gifts to *panar* and *pulavar*.

Spices, a biggest thing of export had their source in the western hills–Kerala, Kuttanadu– but rising demand necessitated their import from south east Asia, to be shipped to the west from the Coromandel coast. Fragrant woods, however accessible indigenously, were also a section of the transit deal. Argaritic muslins, since said earlier, were in demand in the Roman world. Due to rising demand Tamilakam imported *kalagam* and *kalingam* from Burma and Orissa respectively. Cotton fabric from Madurai, muslins from Uraiyur,, 32 diversities of cotton fabrics point to the importance of textiles since an thing of export, separately from indigenous consumption.

Pearls and pepper, two other biggest items of export, came most from south India. *Muttu* heads the categories of gems exported, the pearl rich Pandya coast being the biggest source. *Mani*, meaning gem, was a generic term. Carnelian and agate and other gems from the Kongu area where the beryl mines in Padiyur and Vaniyambadi are situated; diamonds, sapphires, rubies from Srilanka and Cuddapah and Kurnool areas and even from Gujarat were exported from the south Indian ports especially Muciri. The craft of jewel creation, since said earlier, was after that in importance only to textiles, for jewels were an significant thing of export.

Tamil merchants look to have faced competition from northern merchants in this deal. Srilanka gained greater importance through the 3 century AD since an significant entrepote for which proof comes from a Greek merchant from Alexandria, Cosmos Indicopleustus, of the 6 century AD. Tamils acted since middlemen for the Srilankan articles in the early centuries. Spices, was a biggest thing of export, of which pepper was possibly the mainly significant, three-fourths of the total bulk of the standard Rome bound cargo being spices. The *Periplus* points to the Malabar Coast – Kuttanadu – since the largest source of pepper exported from Kottayam and Muciri. Sacks of black pepper at the Chola port of Puhar are mentioned in the *Pattinappalai*. Cardamom from the Travancore area inferior to that from China and south east Asia was yet another of these exports. Malabathrum from the interior; Nard–lemon grass described Narantam in Tamil, entered the southern ports for export. Aromatic woods from Karnataka, Malabar and Coimbatore area were in great demand and the indigenous sources were complemented through those from south east Asia in the centuries after the Christsian period.

Imports to south India were coin, topaz, coral, thin clothing and figured linen, antimony, copper, tin, lead, wine, realgar, and orpiment separately from wheat for the Graeco-Romans in the Tamil ports. Roman wine was the mainly sought after thing of consumption through the ruling and urban elite since stated in the *Purananuru*. The Yavana lamp was a favoured thing. Needless to point out that Roman coins also came in big quantities. Tamil Nadu, however it had access to the gold mines in Karnataka, looks to have used Roman gold both since bullion and for ornaments. Horses, imported from the Arab countries, reached the Tamil ports and the account in the *Perumbanarruppatai* to the pure white horses coming into the harbor of Nirppeyarru is significant, since the deal in horses was not confined to the western ports.

The Nature of Indo-Roman Deal

Although Roman deal intervened in several routes and networks of swap and dominated few, it did not disrupt these or replace them. The pattern was one of by and intensifying the existing networks. There was no transform from private entrepreneurs to state-supported trading companies or for that matter the acquisition of territory, the imposition of political power and the re-ordering of Indian economies, since happened in the colonies of our times.

The more spectacular maritime deal was occasional, but in its interstices there was a steady little-level get in touch with, often coastal, which involved transporting essential supplies quite separately from luxury items. Fernand Braudel, the great French historian, talks of ships which tramped from port to port and were traveling bazaars, mainly covering the more confined routes. Links flanked by Red Sea and India lived from early times since mentioned in Greek and Latin texts,

which also attest to a spurt from the 1 cent BC to the mid-first cent AD. Tamil literature and Prakrit inscriptions, and increasingly numismatics and archaeology give proof of this deal. Excavations are significant also for examining the ecological sites and the gathering and sharing of goods. For instance, domesticated pepper, the mining of chalcedonies and beryls and their production into items, and the diversities of textiles can be situated with the contextualization of archaeological data.

In the context of Indian the history the Indo-Roman maritime deal has a specific meaning. It refers to the Roman demand, in scrupulous, for pepper, pearls, semi-valuable stones and textiles, all imported from South Asia and mainly of which were exchanged for high value coins. The term “Roman” refers to the eventual destination of the items since well since broadly to the Mediterranean participation in the deal section of the behaviors within the Roman empire. The Roman state does not seem to have participated in this deal, but it did exercise manage through collecting substantial taxes on the cargo and protecting the circuits from the Red Sea ports to Alexandria, with forts, garrisons and military camps and to set up watering spaces beside the circuits. The varied Indian systems exploited the Roman deal to their own advantage.

It has been argued that through speaking of it since Roman deal, the Indian component in this deal is under accentuated. On the contrary, we are told, the Roman and eastern Mediterranean component of this deal did not play a dominant role in the south Asian deal, for it was only a more visible pattern in the middle of the several. It has, though, gained validity due to long mention in the Greek and Latin texts. In Indian sources the term Yavanas refers not only to those coming from the Red sea but others from the north west and from the Gulf. However the importance of the Roman deal cannot be minimized, it should be treated since one in the middle of the several trading patterns. Hence, it is argued that to link a common decline in urbanism in India, which is in any case controversial, to a decline in Indo-Roman deal, can hardly be taken since a causal factor, in either urban development or decline on a generalized level for the subcontinent. Though, as the pattern varied from area to area, the impetus that the Roman deal and its intrusion into the regional routes were of varying degrees and it is precisely for this cause that its decline affected the areas of Deccan and Tamilakam in dissimilar methods, Tamilakam showing a more direct impact of the decline in this deal than any other area.

The deal was mannered mainly through the merchants of Egypt and the eastern Mediterranean, but this did not preclude merchants from other sections of the Mediterranean. That the south Indian traders participated in this deal on an equal footing is clearly recognized through the recent detection of a papyrus document in Vienna, recording an agreement flanked by an Alexandrian Greek and a Tamil merchant for a big cargo of Indian goods to be shipped from Muziris and the conditions of swap. The ultimate destination was Rome. Roman deal in the Indian context

was for limited eras, with the Indian routes affected through the deal shifting in excess of time. When substantial, it was an extensive aloofness maritime deal, including more than one regional route in the network of its behaviors and touched on others.

Not all changes in the patterns of deal were concerned solely with navigational and technological matters. Shifts and new routes were occasioned through the availability of and demand for scrupulous items. On the Roman face this deal was in the hands of Greek and Jewish merchants of Egypt and of the Palmyrene and Levantine merchants from the Hellenistic world. Big fleets of ships plied each year just as to Pliny. The ships were armed with archers since a defense against piracy with mercenaries employed through the merchants or ship captains.

He condemns it since an agency of financial drain which he perceives offering the Roman economy, i.e., Romans empire gold possessions which threw the Roman monetary organization into a crisis. Roman concern with the problem dates from the pre-*Periplus* era. Ptolemy's *Geography* is of a later date and is a compendium of existing information in the custom of Greek Geographies, with fuller descriptions of the eastern coast of India and the Ganges Delta than the *Periplus*. Greek and Latin texts are more detailed than the Prakrit inscriptions and Tamil sources. In western Deccan, votive inscriptions recording donations through Yavanas spot the attendance of eastern Mediterranean traders, while such inscriptions are not recognized from the Tamil area.

A re-ordering of the historiography of this deal and a re-consideration of its varied patterns in relation to other categories of deal and swap is required, since there has been big inputs from a diversity of new sources since well since our improved understanding of deal and swap usually in South Asia.

It would be unrealistic to treat this deal, since a consistently active deal for all spaces in the Indian subcontinent and in excess of the early centuries AD. There were smaller localised routes with a relatively more evenly balanced stability. There the Roman deal entered when it could exploit a scrupulous route to advantage. Initially it was from the Red Sea to the west coast i.e., Malabar and its hinterland, in swift movements, entering the regional routes on the west coast where the availability of possessions was well recognized. The Romans were already well-known with aromatics and spices, possibly brought through Indian and Arab traders in smaller quantities to the south Arabian ports and trans-shipped to the Red Sea. The sharing of items does not support a uniformity of trading patterns. Barygaza was special in that. It combined both categories, whereas the ports of south India were, in the largest, exporting items derived from regional possessions. The Roman demand increased the volume of productive and other behaviors but did not need a biggest re-orientation of the regional economies. The detection of the monsoon and references to navigation indicate additional facilities to this deal.

It is not simple to answer the question why the Roman input into this deal declined after the 2 cent AD? Was it due to a greater participation of Indian traders who may have slowly edged out the earlier traders in supplying pepper and textiles to Alexandria? Or the Indian involvement in the deal with central Asia and south east Asia may have led to the tapping of new possessions and products dissimilar from the earlier ones and the supply of these to Central Asia and south east Asia would have diverted attention from the Roman deal. Or did Roman substances in India become a passing fancy?

Coinage

The era is marked through brisk trading behaviors on the western and eastern coasts with the outside world. This is particularly borne out through the availability of immense number of foreign coin hoards crossways the peninsula, with earlier concentration in western Tamil Nadu-Kerala border and later concentration in Andhra.

Roman Coins: Their Sharing in Legroom and Time

Roman coins are establish all in excess of south India but with a greater concentration in Tamil Nadu and after that in Andhra Pradesh. Those of Augustus, Nero, and Septimus Severus are more numerous in the Bijapur, Cuddapah, Guntur, Krishna, Nalgonda and Visakhapatnam districts. The paucity of Roman coins in western Deccan is attributed to direct deal get in touch with being confined to short eras. There is a concentration in the Coimbatore area of Augustus and Tiberius coins of the 1 cent BC and 1 cent AD. This area's importance since a gem and craft centre on the deal circuit from western coast to the east is seen in the occurrence of beryl mines in Padiyur and crafts in Kodumanal. The post-Nero debasement of Roman currency is also said to have affected the nature of the sharing. Shortage of Roman coins were complemented through imitations. The purpose of the countermarks on Roman with representations same to those establish on Punch Marked coins is also not clearly understood.

Inscriptions at Nagarjunakonda and other eastern locations recording donations of *denarii*, jointly with their investment with dissimilar guilds, would suggest that eastern Deccan witnessed continuous flow of Roman coins, while there was a comparative dearth of coins in western Deccan. As the duration of halts at western ports through foreign ships was short, the cargo imported through foreign ships halting at western ports was almost certainly negotiated and bought through Indian merchants at the ports itself and foreign merchants may not have been allowed to enter into regional deal transactions. Roman gold and silver may have been used since high-value coins for procurement of commodities and in regional transactions.

High value early imperial coins, the aurei and denarii of Augustus and Tiberius, establish in hoards in south India coincide with Roman demand for oriental luxuries and with complaints in relation to the paucity of such coins in the empire. In the early 2 cent AD the number of hoards increases, since do the numbers of aurei in Kerala and Andhra Pradesh, with several imitations. Later there is a slight decline and again a recurrence in Andhra Pradesh. Roman bronze coins of the late 3 - 4 centuries AD are establish in Tamil Nadu.

The exploit of Roman coins has been the subject of an inconclusive debate. They seem to have been of limited circulation, used since jeweler most in the Tamil area where proof is quite strong. They look to have had more than a single function; since defense money to ensure the safe passage of goods, when big monetary outlays were involved for big merchandise; since deposits or sureties; the *denarii* since gift or since prestige thing. The Roman Republican issues of the 1 century BC are establish most in Kerala, the later 1 and 2 century coins on the east coast of Tamil Nadu and Andhra; and the 4 -5 century Byzantine coins in Tamil Nadu and Srilanka, while Roman Rouletted ware was more widespread and particularly therefore beside the coast and riverine locations, etc.

The question why therefore several coins were hoarded in specific regions since bullion, or made into jeweler and ornaments; or used since defense money for the safe passage of goods; since capital through regional suppliers for further transactions, since gift swap in the middle of chiefs is hard to answer, unless it is assumed that the coins played a dual role-since high value currency in the trading markets but since prestige items in the hinterlands of the markets, i.e., prestige wealth necessary to both political and marital alliances. Where the imported coins were used since high value currency, there presumably a more sophisticated deal should be registered with a greater incidence of formal deal based on monetized commodity swap and involving markets, although the simpler shapes of barter and gift swap since an additional action require not be away.

Other Coins in the Deccan

Uninsurable cast copper coins in exhumed contexts in excess of a wide area were of pre-Satavahana origin. Clay imitations of Roman coins are also recognized. The exploit of flimsy materials for coinage is attested through 5 century proof of coins which were made of not only bits of bamboo and palm-leaf but also of lac and gum, since also Satavahana coinage of lead, copper, and potin- an alloy of copper zinc, lead and tin. Their silver coins are primarily portrait coins. Inscriptions at cave locations in the Deccan record investments of many thousands of Karsapanas. *Suvarna*, almost certainly gold coins of Kusanas were also recognized and used. Silver necessity have been imported, since there are no pure silver ores in India State manage in excess of coin issue seems doubtful. For the silver Punch Marked coins were private issues of Guilds which sustained in exploit even after the ascendancy of the Satavahanas. The duty of the State was merely to assay all

bullion brought to the mint for coinage and to return the value of the bullion in money. The well-known Jogalthembi hoard of silver coins of which a majority were of Nahapana's, was counter marked through Gautamiputra Satakarni and few perforated. The hoard seems to be a mercantile hoard since all the counter struck issues have a uniform set of representations—*caitya* on the obverse and the Ujjain symbol on the reverse. Many dies were used. The recovery of mercantile hoards indicate that the essential nature of the deal necessitated the long exploit of copper, lead and potin coins in commercial transactions and the stability of a single coin kind throughout the reigns of many successive rulers.

Regional Coinage in Tamilakam

Dynastic issues are recognized of the Cheras and Pandyas, the former with portarits and legends and the latter with legends, separately from those of the minor chiefs like Nannan of Cengam, whose issues have legends with the name of the chief mentioned in the *Malaipadukadam*. The references in the Tamil poems to *kasu*, *panam* and *kanam* look to refer to gold in common and to coins also. The occurrence of Punch Marked coins significantly beside the deal circuits and the exploit of the double carp and other representations on the coins of the Bodinaickanur hoard close to Madurai would suggest the prevalence of *janapada* kind of coins and their exploit since currency.

Yavanas and their Settlements in South India

The attendance of Yavanas does not connote the types of Roman townships well-known from the Mediterranean world and Europe. In India they are usually pre-existing settlements where, since in Arikamedu, few Yavana traders recognized a foundation to facilitate both the production and acquisition of items required in the deal, whereas others were centres of swap which were doubtlessly visited through Yavana traders, since they were through regional traders, mediators and suppliers, involved in this and other deal. More significant were, separately from coins, amphorae sherds, terra sigillata and a diversity of bronze substances and also what are called through Mac Dowall since Roman and sub-Roman artefacts, available in big numbers in the south. In the Deccan inscriptions, mention is made of the spaces from where the Yavanas approach. Mainly frequent is the reference to Dhenukataka with a *vaniya grama* from where they came. The degree of Idealization of Yavanas in north India and the Deccan is striking, mainly of them bearing Buddhist names, having become Buddhists.

The Indian perception of the Yavanas was not uniform. Brahmanical reaction could be severe and hostile. But respect for and borrowing from the Hellenistic theories of astronomy and astrology

is reflected. The Tamil Sangam poems give a dissimilar perspective. Here the Yavanas are aliens, although few of their cargoes such as wine and gold are welcomed. Later texts illustrate admiration for the Yavanas. That they had their houses in Kaverippumpattinam is recognized through the later epic *Silappadikaram* and the occurrence of the Rouletted ware and Amphora, which happen jointly in coastal Tamil Nadu since proof of the export of olive oil and garum through the Yavanas. References are made to the Yavana soldiers guarding the gates of Madurai city. The Sangam texts illustrate an ambivalent attitude to Yavanas and unlike the Yavanas of the Deccan who were Indianised and adopted Sanskritised names, the Yavanas of the Tamil area were often admired for their valor and bravery and hence used as guards at the municipality gates and palaces, but treated as fierce looking, distinctly alien and barbarous since they spoke a harsh tongue and are even characterized as *milecca*. They may have existed in a segregated cluster. The Chera's hostile attitude to a cluster of Yavanas is pointed out in the episode of his taking them with tied hands and pouring ghee on them.

REVIEW QUESTIONS

- Why did people take up cultivation?
- Explain the early Harappan period.
- Describe the Harappan civilization.
- Discuss the characteristic features of Neolithic-chalcolithic sites of the northwest and Rajasthan. In what ways they differ from Ash Mound traditions of the southern Deccan plateau.
- Critically analyze the information provided in the Junagarh *prasasti*. To what extent is it useful for understanding the agrarian economy of the period.
- Discuss the nature of Roman trade in India. What was its long term impact?
- Describe the state of coinage in the Deccan and South India during 3rd century BC to 3rd Century AD. Analyze the presence of Roman coins in the region.

CHAPTER 2

Early Medieval Economy and its Continuities

STRUCTURE

- Learning objectives
- Organisation of agricultural and craft production: north India, c. ad 550—c. ad 1300
- Nature of stratification and regional profiles of agrarian society in early medieval north India, c. ad 550—c. ad 1300
- Organisation of agricultural and crafts production, regional profiles of agrarian society, nature of stratification: south India
- Trade, trading networks and urbanisation: north India, c. ad 300—c. ad 1300
- Exchange networks, merchant organisations and urbanisation: south India
- Review questions

LEARNING OBJECTIVES

After reading this chapter you will be able to learn about:

- Analyze briefly the irrigation techniques used during the early medieval period.
- Enumerate the cropping pattern in north India during the 6-13th centuries.
- Analyze the implications for the rural economy of the various types of land grants.
- Give a brief account of the nature of land tenures under the Chalukyas.
- Analyze the pattern of agrarian expansion in the Andhra region during the early medieval period.
- Analyze the role of inscriptions and coinage in assessing the development of trade and commerce during AD 300-1300.
- Analyze the role of *nadu*, *nagaram* and *nakhara* in the growth of urbanization in south India.

ORGANISATION OF AGRICULTURAL AND CRAFT PRODUCTION: NORTH INDIA, C. AD 550—C. AD 1300

Extent and Expansion of Agriculture

The agrarian landscape of India throughout the early medieval era is brought alive in an unprecedented manner through land-grant inscriptions, which, however recognized from the earlier centuries, really belong with this era. Hundreds of them have been establish from crossways early

medieval North India, although with significant differences in numbers and content in excess of time and legroom. Indeed, historians have been therefore deeply impressed through these records since to approximately equate them with agrarian history itself.

With therefore several villages appearing on the historical record for the first time, it is usually whispered that they spot a much greater agrarian dynamism than seen in the preceding or succeeding era. Presently since the Mauryan-era economy is noted for state manage and initiative and the Kushana-era economy for commercial and urban prosperity, agrarian expansion through means of land-grants is seen since a key characteristic of early medieval economy: ‘...land grants served since an significant means of bringing virgin soil under farming in Central India, Orissa and Eastern Bengal. The similar was true of South India...’; ‘The granting of land slowly changed the political economy by conversion to peasant farming in new regions. Wasteland, theoretically belonging to the state, incorporated grassland and jungle, the intention being for the grantee to clear and settle it then introduce plough agriculture to yield a revenue.’; ‘... the age in question saw expansion and proliferation of agrarian community to an unprecedented degree.... Granting of land in favor of religious donees through the issuance of royal copper plate charters holds a crucial clue to the mechanism of the expansion of agriculture into hitherto uncultivated and uninhabited region’.

Through the similar token, the agrarian history of the areas for which land-grant inscriptions are not accessible is neglected. In the case of the plains of the Punjab, the absence of land grants has led, beside with other thoughts, to the denial of the importance of agriculture in the area before the Sultanate era. It is stated: ‘The Punjab was not yet the bread basket it was to become later, but its attraction place in its network of staging-points beside circuits linking the watershed and the Ganges Plain to the north-west and beyond’.

This view of land grants since the central agency of land reclamation in early medieval India is a deeply flawed one. It runs foul of the cardinal information that much the main majority of land grants consisted of villages already settled, of land already under farming. Agriculture had already been expanding, villages had been forming, for few thousands of years when land-grant inscriptions on durable material begin to seem on the historical scene, giving us the names of few of them. The common proof of the land-grant inscriptions therefore illustrates, somewhat paradoxically, that land grants usually did not play any role in the procedure of agrarian expansion.

To be certain, we do possess examples that are exceptions to the common character of the land grants. There are extremely some cases—to be discussed just—when the state sought to extend farming through creation grant of an uncultivated plot or a deserted village, where the donee of must had to bring the land under the plough in order to enjoy the grant. More in number are the cases when grants through private individuals led to restoration of tillage on fallow land that had once been

under farming. But all these add up to only a little fragment of the total number of the land grants. Since already noted, the testimony of the huge majority of the land-grant inscriptions does not illustrate up the donees since mediators of land reclamation; in giving us details of the hundreds of settled villages that were given absent, it demonstrates exactly the opposite case, i.e. the countryside had been opened up, forests pushed back, waste reclaimed without any role of the grantees.

The plains of the Punjab, for instance, he notes the subsistence of a number of kingdoms with big territories, such since those of Takka, Chinapati, Jalandhara and Shatadru or Sutlej. References are made to the fertility of soil, food crops, fruit trees and suchlike for each of these kingdoms. All this would point to the Punjab having been a land of long farming throughout the seventh century, rather than one merely of a set of staging points on commercial circuits straddling it. In this method, a non-epigraphic source serves to correct an impression shaped mainly out of the negative proof of land-grant inscriptions.

The explanation of Xuan Zang also furnishes a more complete picture of the extent of agricultural manufacture than can be recognized through adding up the testimony of individual inscriptions. The extremely information that an region was recognized since a area would illustrate that it was well-settled on a recognizable level. In information, for mainly of these areas Xuan Zang provides his estimate of their respective regions, bringing out their extensively settled character; the Jalandhar area, for example, is stated to be 1000 east to west and 800 norths to south, and the Multan area in relation to the 4000 in route. The simply agrarian character of these areas is noted in a diversity of methods: The soil of few is stated to be rich and fertile, regular farming is accounted for few others, good or abundant crops for yet others, and therefore on.

There are good causes to consider that Xuan Zang based his explanation on cautious observation and usually refrained from creation sweeping reports. He possessed a critical eye for detail of all types, not presently agricultural one. Therefore stretches of forest were since frequently noted, from their conspicuous attendance to their dominance, whether within a area or beyond it. Trees were a notable characteristic of Jalandhar area in the plains of the Punjab, but landscape in Orissa was easily dominated through forest cover; there were regular forests within its Kongoda area, which was separated from the Kalinga area again through a forest. There were forests and hills also flanked by Kalinga and Southern Koshala, the latter itself being a thickly wooded and marshy area. Konkan and Maharashtra too look to have been dominated through forests, lengthy expanses of which are also stated to have intervened flanked by Kosambi and Prayag, Varanasi and Kushinagara, and Magadha and Munger.

Then there were areas where agriculture was less significant. Therefore for a considerable stretch beside the lower Indus valley, cattle pastroalism was 'exclusively' the source of living. Poor

agriculture is accounted for few areas in Gujarat, and the importance of deal underlined. Significantly, no such report is made for any of the areas in the Punjab. In regions such since Kapilavastu and Ramagrama which are called since desolate and sparsely inhabited, agriculture had apparently received a setback.

It is of this macroscopic survey of the discerning Chinese observer that the land-grant inscriptions give microscopic glimpses. In other languages, the bird's eye-view of Xuan Zang is supplemented significantly through the secure, ringside view from the epigraphs. Since already iterated, mainly of the time these epigraphs bear witness to agrarian expansion since an already accomplished act, prior to the grant, and not something to be undertaken subsequent to the grant. In some instances, though, they do record grants of uncultivated land which the donees would have had to bring under the plough: In such cases, the land grants became the agency of land clearance. One such case is seen in the Tippera Copper Plate Inscription of Lokanatha from Bangladesh, mid-seventh century AD, when more than a hundred brahmanas were given absent a big piece of forest land, 'having no distinction of natural and artificial, having a dense network of bush and creepers, where deer, buffaloes, bears, tigers, serpents, etc. enjoy all pleasures of house-life'. The brahmana donees necessity obviously has initiated agrarian expansion for this tract.

More numerous are instances of other kind, mostly accounted from Eastern India where the donee received a piece of fallow land, i.e. land that had once been under farming, but where farming had ceased of late. Such pieces of land were described *khila*. The history of agriculture, in South Asia since well since elsewhere, has not always been a story of unchecked, continuous expansion. There have been stages of stagnation or regression since population failed to grow significantly or declined due to famine, epidemic or war. In the latter case, settlements would be abandoned and arable would fall into disuse, becoming *khila*. Each such *khila* land meant a loss of revenue to the state, which took manage of it since state property, and would obviously be interested in the restoration of its farming through tax-paying peasant families. This type of restoration necessity has been a routine, ongoing procedure, but there was small cause for inscribing such an act on stone or copper plates.

What we see in the inscriptions are special cases, when a private individual, in order to earn religious merit, requested the state officials to create a piece of *khila* land tax-free for a sure sum of money, which land he would then donate to a brahmana or little religious organization. The donee would naturally bring the land back under the plough, and enjoy its produce without having to pay any taxes to the state. These transactions so testify to a type of agrarian dynamism that arose out of private initiative, with small active role through the state. Moreover, each such example illustrates a contraction of the arable first and its expansion to the earlier stage thereafter. On a graph these

instances would symbolize not points on an upward curve but a complete V-formed trough on a stage row.

It is reasonable to suppose that there would have been in the settled villages not only such fallow land but also other kinds of culturable waste land within and on the borders of village, including land used for grazing animals and little patches of forests. That is to say, even in the middle of the settled villages there would have been little scope for land reclamation for a diversity of causes. The Kanker copper-plate inscription from Central India, dated AD 1213-14, records an augment in the revenue-yield of the village at the time it was being granted and also the fixation of its boundaries on the similar occasion; the augment in the revenue yield was apparently due to an augment in the cultivated region of the village, which also necessitated the frontier fixation. A same augment was registered in this record for another village.

There are few indications that the grantees of settled villages were given the right to reclaim or get reclaimed such waste or fallow pieces of land since might exist or approach up in the village being granted. The donees would normally be interested in promoting such reclamation, for that would add to their income or uphold it. Unlike in the case of grant of uncultivated land, though, the grantees of settled villages were not required through the act of grant itself to undertake any reclamation.

Irrigation

If the land-grant inscriptions generally tell us nothing in relation to the role of the state in the promotion of agricultural manufacture, it does not mean that the state did not play any such role. A 12th century non-epigraphic source, the *Rajatarangini* through Kalhana, relates in few detail how the early medieval state could contribute to the reason of agriculture on a significant level through other means than issuing grants on copper plates or stone of uncultivated land to religious personnel or organizations. Throughout the eighth century AD, King Lalitaditya Muktapida caused a 'diversion of the waters of the Vitasta River' at a sure lay and also distributed a big number of water-wheels in the middle of the villages. A distant more consequential intervention through the state occurred in the after that century with the ingenious flood-manage events, long land reclamation, and making of a network of canals through the state official Suyya. The revolutionary impact of Suyya's events was therefore called through Kalhana: 'Where formerly throughout times of great abundance the purchase price of a *khari* of rice had been two hundred Dinnaras ..., in that similar realm of Kashmir as his times..., the purchase price of a *khari* of rice came to be thirty-six Dinnaras.'

Irrigation facilities are accounted for the area of Sind also at the time of its conquest through the Arabs in the eighth century. These look to have consisted of state-maintained canals since well since facilities under society or individual possession and operation such since water-wheels.

The allusion to *araghattas* in the *Rajatarangini* occurs in the context of the diversion of river waters. There are also specific references to *araghattas* set up on wells elsewhere in the text. These associations of the *araghatta* with surface water and water at a depth symbolize the first two levels of the three-level history of the device that is usually described Persian wheel or *Rahat* in Hindi. In the first level pots were attached to the rim of a wheel that was set up on a source of surface water; since the wheel was rotated, the pots took in and poured out water in continuous succession. This was the first level of the device that is described 'noria' in English. In the second level, the pots were not fixed to the rim of the wheel but to an extensive rope that was then used since a chain and hung, like a garland, in excess of the wheel. This rope-chain with pots is appropriately described pot-garland. When the water-wheel was placed in excess of a well at a appropriate height, the pots at the bottom of the hanging pot-garland would be immersed in the water of the well. Through rotating the wheel, it was therefore now possible to exploit the well efficiently for irrigation and other purposes.

This second-level in the history of *araghatta* is widely attested not only in the literature of early India but also in the early medieval inscriptions of South Rajasthan and Gujarat. These *araghattas* on wells were operated manually either through hand or through foot. When they came to be operated through animal domination with the application of a gearing mechanism, the third level of the water-wheel was reached. A vivid account of this is given in the *Babarnama*. A vague claim for the subsistence of this in the tenth-century India was rebutted through Habib, and the rebuttal has not been contested therefore distant. There are a fair number of references to wells and tanks in the inscriptions from several areas. From Gujarat in scrupulous comes good epigraphic proof of a special kind of big wells with steps, described *vapi* or step-well. Not all these wells, tanks, etc. were used for irrigating crops, since historians often assume too readily without enquiry. All the *vapis* that occurs in the epigraphic records have therefore been idea since meant for agriculture, *vapi* being even *translated* on occasion since 'an irrigation well', since in rendering an inscription of a Maitraka ruler of Gujarat, although *vapis* serving non-agrarian purposes are quite well recognized. Similarly, it is wrong to think that the great Bhojpur Lake in Malwa was created for augmenting agricultural manufacture.

In a great number of cases, though, the agrarian function of the water possessions is clarified beyond reasonable doubt through the contextual analysis of the inscriptions. Therefore in the two *vapis* were granted beside with two hundred forty events of land since *brahmadeya* to two brahmanas and there is a further reference to the farming of the grant. In semi-dry areas of Western

India, these irrigation devices of course brought much-needed security to farming, but they could also create possible double cropping, since they do in other sections of India: A seventh century inscription from Mewar refers to *araghattas* and tanks on the boundaries of arable meadows, few of which are said to be producing two crops in a year.

Extremely motivating irrigation arrangements are seen in few early medieval inscriptions of Orissa, one of which refers to the grant of one *hala* or plough measure of land 'with the right to attract water from the tank Tungana until the crop ripened'. In another example, a brahmana was granted a watercourse beside with land, but was 'asked to share the water with other families of the locality throughout summer'. It is possible to infer irrigation from other types of references. The farming of sugarcane in excess of North India is recognized from a diversity of early medieval sources, both literary and epigraphic. Since 'outside the transitional Ganga Plains sugarcane necessity generally be irrigated', the instances of sugarcane farming become pointers to the prevalence of irrigation. The inscriptions of the Chandella rulers, for example, are replete with references to sugarcane in the meadows of early medieval Bundelkhand. The terrain of the area lends itself to tank irrigation with least attempt, while the variable rainfall makes a common demand for it. Archaeological proof for tank irrigation, traditionally dated to early medieval era, also survives in the region.

For all its importance, the irrigation events would have sheltered only a little proportion of the total cropped region, since they sustained to do till much later times. The superior proportion would have been dependent not only on rainfall but also on inundation of the flood-plains. The region of the floodplains necessity have been much superior then, which has now been substantially reduced through the big-level embankment of rivers throughout the contemporary era for a diversity of causes, e.g. to facilitate railway train movements. The annual flooding of the plains of the Indus river was in scrupulous significant, on explanation of both the semi-aridity of the area since well since the enormous expanse of the inundation. But the importance of such since inundation was noted through late medieval chroniclers for regions with considerable rainfall too, such since eastern Uttar Pradesh. The division of land since *deva-matrka* and *nadi-matrka* in the sources underlines the importance of rainfall and river inundation for agriculture.

Crops

Through piecing jointly the casual references and occasional notices in the literary and epigraphic sources, it is seen that a big number of crops were raised in early medieval North India. The staples incorporated wheat, barley, many diversities of rice, millets such since Kodon, China and

Ragi, since well since a number of pulses. Separately from the oilseeds, viz. sesame, mustard, and castor, the sources also bear witness to the cultivations of a wide range of cash crops: saffron, sugarcane, betel leaves, betel nut, cotton, flax, sann-hemp, indigo, coconut and arecanut. Therefore also are documented several vegetables since well since spices. Fruits seem to have constituted a significant supplement to general diet.

We are also reasonably well-informed, aided through later references, on the spatial sharing of these products. Therefore wet rice farming is mentioned in the sources from well-marked rice-zones, but, since Xuan Zang attests, 'upland rice' was being grown, no doubt since a lesser crop, in several sections of north and north-west India: Jalandhara, Pariyatra, Kosambi and Takka. Farming of cotton is seen not only in Bundelkhand and Malwa but also, somewhat surprisingly for the contemporary observer, in Bengal. A number of literary sources, both indigenous and foreign, combine with the epigraphic ones to bring out the manufacture of sugarcane by the early medieval centuries crossways our area, from Gandhara and Kashmir in the northwest to Rajasthan, Malwa, Bundelkhand, Uttar Pradesh, Bihar and Bengal. Saffron farming was already well in lain in the north-west areas including Udayana, Darel and Kashmir, and since distant since Kapisha in Afghanistan.

Since to the level on which dissimilar crops were produced in dissimilar areas, one should not of course anticipate any quantitative data from our sources. It is nevertheless possible to obtain few thought of the comparative importance of a scrupulous crop in a area. Therefore while the Chinese pilgrim I-zing underlines the abundance of wheat in the north-west, the singular importance of rice since land measure in the inscriptions of early medieval Assam leaves no doubt in relation to the crop's dominance there. A same importance of rice for Kashmir may easily be detected in the *Rajatarangini* of Kalhana, but a reference in the *Nilamata Purana*, another text from the area, would illustrate the importance of barley since a secondary crop, then since now. Barley seems to have been a crop of little importance in the western areas too. Same indications of the dominance of rice in the areas of Eastern India seem in the sources, which are unluckily rather reticent in this respect in relation to the wheat and after that to silent in relation to the millets. A Chinese testimony illustrates that at least towards the closing centuries of our era, Malwa had assumed its present characteristic of a biggest cotton producing area; just as to another Chinese witness, religious taboos against onion and garlic had already taken their toll on the manufacture of these crops in India at the onset of the early medieval era.

The special characteristics of sure areas were already recognizable in the first half of the seventh century, such since the fame of Magadha for its excellent diversity of rice. Vaishali in the neighborhood was famed in relation to the similar time for its orchards of mangoes and plantains, a

reputation that it still enjoys. It was, though, a story since much of transform since of stability. Similarly, from their smallest attendance in the earlier era, coconut and arecanut grew to be significant cash crops in Bengal through the twelfth-thirteenth centuries. And, since we know, the agrarian contours of early medieval India were again to transform significantly in the Mughal era. Maize was not introduced in our era, since is sometimes whispered on the foundation of an Assam inscription.

Craft Manufacture

We may begin our survey with the mainly vital of the Iron Age crafts, i.e. iron smithy. Since with therefore several other crafts, we get no more than fleeting glimpses of it by the curtains of the sources. Sometimes it is in the shape of the attendance of the blacksmith, whether in a West Indian village receiving his due of the harvest since in the *Lekhapaddhati*, or at the extremely limits of rural community, in a forest resolution in North India, since in the *Harshacharita*. When craftsmen in common are accounted in land-grant inscriptions, e.g. Chandella charters, and those from early medieval Kumaon-Garhwal, we can be reasonably sure of the attendance of blacksmiths in the middle of them. Big bulks of inscriptions may at times attract a close to total blank on them, since is almost certainly the case with the inscriptions from early medieval Orissa. But from Orissa comes the mainly solid proof of the huge level and high ability of ferrous metal-working, in the shape of iron beams in the temples, when at times wooden beams could be dispensed with altogether. Malwa, with its well-known Dhar iron pillar, presents a similarity case.

A good common index of the iron craftsmen's quality is seen in the fame of Indian swords abroad, many centres for creation which are recorded in the literary sources at home. These swords with patterned blades were prized everywhere, and came to be described 'Damascus' swords. These looks to have been a extra ordinary technical affinity flanked by India and Islamic lands to the west in this respect. Since Ahmed Y. al- Hassan and Donald R. Hill state in their book *Islamic Technology*: 'In common it is no exaggeration to say that Islam and India shaped one cultural region since distant since Damascus steel was concerned.'

The regions which were mined for iron ores in the earlier era and were in exploit in later time's necessity obviously have sustained to be tapped throughout our era, e.g. Jharkhand. Talcher in Orissa is whispered to have supplied ores to the smelters of the area, since it does to this day. But one also gets a reference to the manufacture of iron and other metals, e.g. silver and copper, in Western Punjab in the seventh century A.D., to which no reference has been traced in the later era. This has been explained, plausibly in our view, in conditions of the subsistence of little deposits of the ores of

these metals in the Lower Himalayas, Shivaliks, and Salt Range. They could be mined only for a limited era, where in after they were not noticed in the later literature. Their exhaustion would have led to prospecting in other regions. Similarly Kalhana statements the huge mining of copper through the state in a hill in South Kashmir for the eighth century, but not for the earlier or subsequent eras.

Large-scale mineral manufacture of non-ferrous metals incorporated the well-known Panjhir silver mines in North Afghanistan, where ten thousand miners are accounted to have been working in the tenth century A.D. Though, since our source creates it clear, the big number was an indicator less of the quantity of the silver deposits than of a chaotic silver rush in the middle of the people. It is stated: ‘the people of Panjhir made the mountain and the market-lay like a sieve because of the several pits.... you will see a man start his day owning one million, and through nightfall he owns nothing. Or he may start poor in the morning and through evening become the owner of unaccountable wealth’. Cinnabar, the only significant ore of mercury, was being mined at Broach in Gujarat in the tenth century.

A biggest source of gold in North India was the gold-bearing sands of the rivers, the mainly significant of them in this respect being the Indus, since attested through Abul Fazl. A account of how gold was obtained from the Indus in the eleventh century is seen in Alberuni’s job on mineralogy, *Al-Jamahir fi ma’rifat at Jawahir*: ‘At its sources there are spaces in which they dig little pits under the water, which flows in excess of them. They fill the pits with mercury and leave it for a while. Then they approach back after the mercury has become gold. This is because at its start the water is rapid and it carries with it particles in excess of the surface of mercury which picks up the gold, leaving the sand to pass absent.’

Nepal was a significant source of copper, which was obtained also from tribal regions and beyond. Actual discovers since well since epigraphic and literary references add up to an impressive explanation of the numerous kinds and expert execution of the non-ferrous metal products.

Stone, earth, and wood provided material for a number of significant crafts: stone masonry, sculpture, lapidary, pot- creation, brick-creation, and carpentry. All these are attested in varying degrees of level and detail for dissimilar areas. Early medieval India saw a new stage of art and architecture with separate local styles: Stone sculpture in black basalt throughout the Pala era in Eastern India, for example, is therefore extremely dissimilar from the stone images in sandstone and marble from Western and Central India, and jointly they create early medieval India quite separate from the preceding eras in Indian history. This new stage with its long sweep not only bespeaks several a significant innovations on the craftsmen’s section but also bears witness to the honing of their skills to classical perfection.

A biggest sphere of the non-agrarian economy was manufacture of salt. Salt was made from sea water in the coastal regions on the west and the east. It was also obtained from the Sambhar Lake in Rajasthan and the Salt Range. Salt pits, where salt would be produced from nitrous soil, are also regularly attested, especially in the inscriptions of the Kalachuris, Chandellas, and Gahadavalas. In Sind the Saran Delyar deposits were almost certainly exploited for the purpose. The significance of these regional supplies may easily be appreciated in view of the high costs of transporting salt in excess of extensive distances on land.

Then there were the crafts that derived from primary manufacture in the countryside: textiles, oil-pressing, sugar-processing, liquor- creation, and leather job. With their broad manufacture foundation in agriculture and animal husbandry, it is not surprising that all these crafts should have been practiced widely. Textiles were naturally distant more significant than the other products, and occur also to be the mainly visible in the sources. A significant growth in cotton textile technology took lay throughout our era. The cotton gin came, flanked by the sixth and the tenth centuries, to be fitted with both crank handle and worm gear, therefore that separation of cotton fiber from seeds and other waste material could be done distant more efficiently. The older view has now been confirmed that the bow had been in exploit in India from pre-Gupta era onwards. Spinners, though, did not yet have the advantage of the spinning wheel, which is first seen in India in AD1350. The early medieval sources give lists of a great diversity of textiles, of cotton since well since of wool, sann-hemp, silk, and Ranku deer's hair. There have almost certainly been no systematic comparisons in detail of these with the kinds mentioned in the earlier sources, since distant since we know, but P.K.Gode showed *mashakahari*—bed-curtain or 'mosquito-net'—to be one innovation of our era, and it is likely that there were few more. The well-known tie-and-die technique, of which Habib discovers the earliest reference in Banabhatta's *Harshacharita*, was another early medieval novelty.

Since the word *chakra* for the oil-mill in the *Manusmriti* and the *Mahabharata* illustrates, the oil-mill, employing rotary motion, had been in exploit as early first millennium AD at least. An early medieval text, *Bhagavata Purana*, provides it a fuller name *taila-yantra-chakra*. Oil-mills came to be such a regular feature of general life that to speak of a machine, *yantra* was to speak of an oil-mill. Lexicons take languages like *yantra-grha* and *yantra-sadman* to mean an oil-mill or oil manufactory, therefore that the term *yantra-kuti* in a late-sixth century inscription from Gujarat has rightly been understood since an oil-mill or manufactory. An inscription from Himachal Pradesh, dated AD 804, calls it *tailotpida- yantra*. This procedure of *utpidana* was apparently dissimilar from the ancient practice of grinding the seeds for oil-extraction since indicated through the term *taila-pesham* in Panini's grammar. Though, the more general word for oil-mill in early medieval Sanskrit inscriptions in not *yantra* or *chakra* but a new term, apparently vernacular in origin: *ghanaka*, occasionally also

described *Ghana* or *ghranaka*. The term that is now popularly used for the oil-press is *ghani*, affiliated to *ghanaka*, rather than *chakki*, a derivative of *chakra*. The other current term for the oil-mill, *kolhu* also has its counterpart *kolhuka* in a ninth century Sanskrit inscription from Gwalior. All that is sure is that the creation of the *ghani* in its present shape was a wholly Indian conception, for the *ghani* of South Asia is extremely dissimilar from oil-presses elsewhere.

In his dictionary of Deshi works, described *Deshinamamala*, the well-known twelfth century Jaina scholar Hemachandra listed *kolhuo* since a term for sugar press, and also called the procedure since one of *nipidana* i.e. squeezing. The parallel of conditions suggests a parallel in the mechanism of the oil-press and the sugar-press. The flourishing state of the sugarcane-processing industry crossways North India is shown of course through the combined weight of the numerous references to sugarcane farming, its products, sugar-press, and the persons occupied in the processing and the sharing of the products. But possibly the more extra ordinary thing is the impressive level on which sugar industry, including sugarcane plantations, spread out beyond the subcontinent, from Iran by West Asia and North Africa to Spain and Sicily, all throughout our era. It is usually idea that the knowledge of sugar-creation was brought to China from India in relation to the mid-seventh century through an envoy of the Tang emperor who was sent to India for this specific purpose. A reexamination of the proof suggests that it was the Indian Buddhist monks and two artisans from Magadha who were really responsible for the technology transfer to China in relation to the AD 647-648. The Chinese knew how to create a kind of sugar at a much earlier date, but what they learnt now was the procedures of creation *khanda* and *sharkara*, the two coveted age-old Indian diversities.

The details of these procedures, which had therefore distant remained strange to historians of sugar-industry, have happily been revealed through a recently establish fragmentary document in China, dated to ninth/tenth century AD, which refers in the middle of other things, to the working of the sugar press through oxen, the device seemingly being *kolhu*. References to many diversities of liquor since well since liquor-makers point to liquor making to have been a widely practiced craft. A majority of the Indian historians have not been sensitive to, or even aware of, the vital question whether these liquors, or any of them, were fermented only or both fermented and distilled. By a review of the works of those some who have pursued the question, and adding his own research to theirs, the great Joseph Needham has argued that few shape of distillation was practiced in India from extremely early times, and that, beside with non-spirituos liquors, distilled ones too were produced throughout the early medieval era.

Preparation of hides and their products is rather sparsely represented in our sources. An inscription from central India refers to one shoe-maker while another is seen in the *Rajatarangini*. The tenth century Paschimbhag inscription from Eastern India mentions dozens of *charmakaras* in

relationship with a monastery, but they look to have been attached to the establishment since agricultural workers rather than since leather workers, to the caste of which they belonged. This phenomenon of the professional caste of leather workers providing agrarian labour remnants an significant characteristic of Indian countryside even now, since craft specialization, being inadequate for regular living, is not a full-time, allseason occupation. But the leather-workers who were organized into associations, since seen in an early medieval law-digest, look to betray a higher stage of status and of professional ability and engagement. A category separately were the famed leather workers of Gujarat, whose products, rated since the best and the costliest in the world, drew the unstinting admiration of foreign observers like Al-Masudi and Marco Polo. The hides were mostly those of the domesticated animals in all probability. Though, since few references suggest, skins of wild animals too necessity have been frequently used in leather job. In this since well since in other compliments, mainly notably carpentry and basket-creation, forests were an significant source of the craftsmen's raw material. The tuskers of Orissa's forests were therefore the foundation of its ancient reputation in ivory job, which sustained in the early medieval era, since attested in the *Hudud-ul Alam*; for central and western India, too, the agency of tribals in the procurement of ivory, is seen in early medieval Jaina sources.

Organisation of Craft Manufacture

The vital element of craft manufacture in the countryside was the individual craftsman with his family, livelihood amid the agrarian societies, often in the company of the families of other professionals, including other craft specialists. A scatter of references, epigraphic and other, brings out the widespread dispersal of a number of crafts in excess of the countryside: that of the potter, the weaver, the ironsmith, the carpenter, the jaggery-maker, the oil-miller, the leather-worker, the liquor-maker, and therefore on.

Few of these clusters were treated since untouchables and suffered from spatial segregation, livelihood outside the village. The composition of such clusters, though, looks to have varied from area to area; therefore weavers were noticed through Alberuni since one such cluster of untouchable craftsmen who existed at a aloofness from the largest resolution, but in a Jain text, they are listed in the middle of a category of professional clusters described *narua*, that is, not untouchable, separate from the category of *karua* clusters, that is, untouchable ones. The binary division of these professional clusters since *naru-karu* has persisted down to contemporary times. Same contrasts in status for other clusters too may be seen in the modern sources, with probable exceptions such since the leather workers, who look to have been regarded since untouchables everywhere. In spite of the

narua and *karua* divisions in the middle of them, artisans in common sustained to be recognized usually since *karus*.

A typical arrangement flanked by the artisans and their rural clients was worked out, one that came to be recognized later since *jajmani* organization. The artisan would undertake to give a fixed number of services to a peasant family in return for a fixed share in the peasant's harvest. A document in the *Lekhapaddhati*, a job from Western India, attests to the prevalence of this practice with reference to five *karuakas*. In addition, some inscriptions refer to the agricultural meadows of artisans, e.g. the reference to a carpenter's field in a Maitraka charter. Going through latter-day practice, it is likely that the arrangement also incorporated allotting a little cultivable plot to the artisan; he would raise a crop and exploit up all its produce, keeping nothing since seeds for the after that season, which would be provided through his peasant clients in the shape of a tiny share of the produce 'for seed' in excess of and above the share for his consumption.

There would have no doubt been differences in the details of this arrangement in excess of time and legroom, but it is plain that it sheltered neither the whole range of rural craftsmen nor the whole range of the manufacture job of any single artisan. We have seen above in the *Lekhapaddhati* the working of the organization with reference to five *karuakas*, only three of whom are named since the blacksmith, the carpenter, and the potter. Whoever the other two might have been the villagers' necessities of professional services certainly went distant beyond the services of the five *karuakas*. Likewise, going through considerable relative proof, there would often be demand for more pots, sickles, repair job, etc. than those agreed upon in the *jajmani* organization. All these extra demands would be met outside the *jajmani* organization, often by market swap.

At the similar time references to the meadows of these artisans illustrate—since does that to the leather-workers since agricultural labourers—that craft job was not the full-time occupation of these specialists. In information, lack of enough demand for their skills was a biggest cause why such specialist families tended to settle down only in superior villages and why even from there they would often be willing to extend their *jajmani* ties to the neighboring little settlements. This mix of the *jajmani* and the market context of craft manufacture in the countryside were almost certainly not seriously disturbed through the donation of few of these villages through the state to religious functionaries or organizations. Theoretically, it usually meant the transfer of the craftsmen's obligations towards the state to the donees. On the all significant question—what the donees did with their newly-won claims on the craftsmen and their family's small direct or otherwise relevant proof unluckily has yet approach to light.

In few religious establishments, though, craft manufacture came to be organized, through special events, on a pattern that resembled the *jajmani* organization but could be more

comprehensive than the usual web of *jajmani* ties. A hint of this is seen in a twelfth-century inscription of Orissa, when a potter was given two events of land on condition of supplying on a daily foundation cooking pots to a temple for religious service. A detailed portrayal of such an arrangement in tenth century for many temples in Sylhet area in Bangladesh is provided through the Paschimbhag Copper Plate Inscription. In one of these temples, for example, two oil-millers, two potters, two carpenters, and two masons figure in the middle of the dozens of other service-providers since recipients of substantial plots each, apparently in lieu of their services. These services are not specified; in view of the substantial holdings, it possibly means that their services were now at the temple's disposal. That is to say, the craftsmen would meet all the necessities of the establishment.

Quite separate from the thin spread of the artisans in excess of the countryside was their concentration in varying degrees at sure spaces. Their superior attendance was evidently in virtue of a superior demand for their products, and these spaces would usually be nodal points. That is to say, they would be points in networks of settlements where rows of communication met or, which is the similar thing, branched—rows beside which food surpluses were mobilized, areas were interlinked and power was asserted. One kind of such spaces was established since *karvata* or *kharvata*. One modern defined it since 'superior than a *grama*, but smaller than a *nagara*' while another saw it since a village that 'abounded in artisans and agriculturists'. The *kharvata* was, then, distinguished since a resolution from an standard village through its greater mass and prominence of craft manufacture, but was not *necessarily* established since an urban centre. In information, since one of the two definitions illustrates, it could continue to be established since a village only but since the other definition illustrates, it could alternatively be established since a market city, a lay where regular markets or *hattas* were held. Indeed, it is in the sense of market city that the conditions *karvataka* and *kharvada* happen in inscriptions.

In an urban economy proper, a superior conglomerate of craftsmen would of course be seen. Throughout the tenth century, for example, in the flourishing city of Siyadoni, situated at the Lalitpur gap that joins North India to Malwa and thence to West and South India, one witnesses a sizeable attendance of artisans, including potters, liquor-makers, weavers, sugar-boilers, braziers, oil-millers, and stone-cutters. Here, since elsewhere, these craftsmen figure in the context of religious charity, and do not so symbolize all the crafts that were plied in the city. For example, in the late twelfth century, the Jain holy location of Sanderaka in Marwar comes into our view since a lay where royal and other benefactions were being made, where a donated home fetched annual cash income from its rent-paying inmates, and where there also were merchants numerous and significant sufficient to have a *goshti* institution of their own. Seven cart-makers or *rathakaras*, who were residents of this lay, also figure since donors, and this is how we know that this was an significant cart-structure

location. This holy city necessity has had other craft behaviors—presently since there necessity has been other cash transactions than that mentioned in the inscription—but we know nothing of them.

At times an urban economy was served through artisan's livelihood in neighboring villages, since ancient Varanasi had been. Therefore while in the Chhatisgarh area throughout early thirteenth century an engraver of inscriptions was a resident of a city described Padi, the artisans who engraved Amgachi plates of the Pala rulers Mahipala and Vigrahapala existed in a village described Poshali. The probable urban relationship of the village is suggested through its identification with the contemporary village Posela, located in the vicinity of the familiar medieval city Mangalkot. A same situation may have lived in the case of the resolution Shubankarapataka in Assam with its two clusters of weavers. It is in the context of these producers outside the *jajmani* arrangement, temple establishment, and the like that craft guilds are mentioned. The more general term for these guilds was *shreni*, but they were also recognized through other names, such since *deshi* and *gosothi*. When a number of professionals at a lay are seen since acting jointly in a religious context, or when they were being taxed, one may legitimately infer the subsistence of a guild-like institution of each such cluster, even however the term since such does not happen in the records.

An thought of the character of these guilds may be shaped by a critical analysis of the combined testimony of law-digests, inscriptions, and other sources, which were concerned in dissimilar methods with their working and composition. Members of a craft guild tended to belong to one caste: Craft skills were handed down from generation to generation within a family, and marriage ties brought such families jointly since a caste. But these were varying stages of expertise where the masters were recognized since *acharyas*, to whom others would flock since apprentices. Four levels of reaching perfection in a craft were established, and the trainees apparently learnt at the occupation while creation a livelihood out of it.

The affairs of the guilds were supervised through a little cluster of its more influential members. At Gopagiri or Gwalior, a *shreni* of oil-millers had ten chiefs described *mahattakas* while a *shreni* of gardeners had seven chiefs described *maharas*. Therefore the number and titles of those who looked after the affairs of the guild could modify from guild to guild, even at one lay; the differences in excess of areas would have been, if anything, even greater.

These guilds were mutual-help associations, membership of which was meant to give insurance against misfortune, natural calamity, and oppression. The communal affairs of guilds could also possibly contain pursuit of general economic interests, such since through excluding competition from within and without. Their corporate character is again seen in communal acts of piety and receipts of deposits, but there looks to be small clearly- analyzed proof for the guild *since a element* organizing manufacture or undertaking an economic enterprise throughout our era. In

information, an indication to the contrary is seen in the cases where a guild received a deposit of a big sum from an outsider, in lieu of which members of the guild agreed to create a regular contribution *on an individual foundation*. The deposit apparently went to the communal finance of the guild, which, lacking its own corporate means could only depend on the individual contributions of its members. It is inherently probable that the guild sought to increase its finances through lending few of it and gaining interest thereon, which everyone did, for instance the Sun temple of Jagatsvamin at Bhinmal in Rajasthan in the thirteenth century. This was, though, quite separate from the guild functioning since a banker.

There is good proof to illustrate that a number of artisans in early medieval India worked in circumstances of dependence on merchants, even however no hint of any such dependence is seen for the majority of the artisans and their clusters. In his commentary on the *Naradasmṛti* in the eighth century, Asahaya explained *shrenis* in the sense of artisans who were attached to, i.e. dependent on a large merchant. At the end of our era, in the legal treatise *Kṛtyakalpataru* collected in mid-North India, artisans are clearly stated to consist of two clusters: dependent ones and self-governing ones. It also speaks of ‘artisans in the middle of merchants’ and matters are further clarified through Hemachandra calling *shreshthins* or merchantfinanciers since governors of the forts of eighteen guilds and subguilds.

It is at this point that the state of affairs is seen to discover a striking corroboration in the numerous epigraphic references to merchant settlements, described variously the *grama*, *nagara* or *kotta* of merchants, from the late sixth century to early thirteenth century. In a sixth-century charter of the Maitraka ruler Vishnusenā from Western India, for example, a entire lot of craftsmen is seen to be livelihood in the middle of and under the power of merchants: sugar-boilers, indigo-dyers, liquor-makers, braziers, oil-press workers, and producers of vinegar or bitter wine, tailors, weavers, shoe-makers, blacksmiths, sawyers and potters. The reference to a merchant chief subjecting ‘the blacksmith, sawyer, barber, potter, and the like’ to forced labour is a clear report on the subordinate location of few of these artisan clusters.

NATURE OF STRATIFICATION AND REGIONAL PROFILES OF AGRARIAN SOCIETY IN EARLY MEDIEVAL NORTH INDIA, C. AD 550—C. AD 1300

Landownership

The subject of landownership in early India has often been debated, with few historians arguing for royal ownership of land, others for individual or private ownership, and yet others for

communal ownership. For each of these positions, it is possible to discover clear-cut proof in the sources. For example, one may refer to Xuan Zang's testimony for early medieval India to argue that 'the state in India was held at this time, virtually, if not legally, to be the owner of the soil'. It is equally possible to contest the truth of each such proof, to assert, for example, that Xuan Zang did not judge the situation correctly in India, having being misled through his Chinese backdrop.

Though, this confusion of proof and therefore of interpretation is not insoluble. It is not correct to inquire whether the state or the individual/clusters owned land, because in information both 'owned' land concurrently, but differently. Since explained through P.V. Kane in his monumental job *History of Dharmasastra*, 'the state was deemed to be the owner of all lands since a common proposition', but 'individuals and clusters that had cultivated lands in their possession were regarded principally since owners thereof subject to the liability to pay land tax and the right of the state to sell land for non-payment of tax'. It was therefore a case of coextensive rights. In information, before Kane's magisterial survey of the question, this had been realised through a extensive row of distinguished scholars, like Wilks, Dubois, Elphinstone, Patton, Chamier and Wilson. We have put the word 'owned' in inverted commas above because of a peculiarity of the concept of property in early India, whereby all types of rights in land could be recognized in dissimilar contexts since constituting 'property', even the rights of sub mortgagee. Therefore, land could be seen variously since the *svatva* of the king or of the individual or of the latter's tenant-farmers and therefore on. Failure to recognize this peculiarity of usage has almost certainly been the other largest cause for the debate on ownership, separately from the non-appreciation of concurrence of rights. In the middle of these multiple 'owners', nevertheless, one was clearly understood to be *the owner* with overriding rights. These were, since Kane puts it, the 'individuals and clusters that had cultivated lands in their possession'—i.e., the peasant masses and landlords—who 'were regarded *principally* since owners'. They held the title to their land, and came to be described *mulasvamins*—since separate from the other *svamins*—or *bhaumikas*, those to whom the *bhumi* or land belonged. It was these people who were liable to pay revenue on the land, decided on the mode of its farming, and could gift the entire or a section of it, and whose children would inherit it with all its incidents.

This ownership of land through the subjects is not negated through conditions like *bhupati*, 'lord of the earth'; and *bhusvamin*, 'owner of the land' for the king. These conditions referred to the separate claims of the state. These claims did not infringe on the rights of the landowners of the realm, creation them tenants at will, presently since the other set of conditions for the king, such since *narapati*, 'lord of men', did not take absent the freedom of the subjects, creation them slaves.

The State's Claims on Agrarian Community

To be certain, conditions like *bhupati* and *narapati* do imply sure claims of the state on the land and the people. Details of these claims are, in information, quite familiar in plenty from the legal and epigraphic literature. Though, the debate in excess of royal versus individual ownership of land has, especially in the context of the debate in excess of early medieval agrarian building, tended to obscure the precise nature of these claims. Advocacy of royal ownership has meant a close to wholesale denial of peasant rights in land; counterclaims of individual ownership have confined the state's role to mere collection of its share of the produce since taxes.

Distant from being a passive recipient of revenues, the state maintained a vigorous attendance in agrarian community with a view to exploiting to the full all its claims. It began with the assessment, i.e., valuation of land for the purpose of taxation. Depending on the excellence of the arable, the state *expected* a sure yield from every field, and taxed it accordingly. When we see, for example, that a piece of land being granted in ninth century Assam was stated to be worth 2000 events of paddy, it is clear that the land had been therefore assessed through the state. The law books give for fines for the landowners if they do not properly cultivate the land, producing less than what they were expected to do, and therefore causing a loss to the treasury. Neglect of farming could in information lead after a time to the loss of title. In a extremely real sense the land belonged to the state. Individuals therefore held land on condition of keeping it productive to a stipulated degree. All other territory was under the direct managing of the king, who would of course be interested in creation, it worth his while in little method or the other. This was done mostly through encouraging people to colonies it under private titles but the early medieval state did control a bit of it itself, since we shall see just.

In virtue of his common lordship of the whole territory, of being a *bhupati*, the king claimed a share of all types of produce on his land, not presently of the principal crops. Fruits, roots, fuel, vegetables, oil, and ghee, everything that grew on, beneath and above his land: nothing could escape, in principle, state demand. In virtue of the king also being a *narapati*, the state made two more sets of demands, exercising common lordship in excess of the subjects, all of whom were subject to obedience in defined conditions, which were usually included in the middle of the legal norms. One was in the shape of fines in default of good conduct. The second set of demands comprised *generalised* labour service, since separate from the labour tax levied from *specific* segments of population, especially the artisans.

Since an adage in an inscription put it, the king was enjoined not to confiscate the land properly maintained through good or honest people. You already have a thought of what is meant through 'proper maintenance' of land. But people had also to be 'good'/'honest'. It they were

establishing to be deviating from proper activities, the state would not usually take back the land; it would fine them for misconduct. These fines were a significant means of income to the state since it went in relation to the regulating the social order. In information, the word *danda* approach to mean both fine and punishment in Sanskrit, since it continues to do in Hindi and other Indic words. A general phrase in early medieval state records is *danda-dashaparadha*, referring to punishment by fines for ‘ten offences’. These stand not therefore much for few ten specific crimes, but for ten categories of them since seen in the legal literature, which is almost all-encompassing in scope; the phrase *danda-dashaparadha* therefore looks to stand for judicial fines in common.

Through virtue of its lordship in excess of the people, the state also arrogated to itself the right to demand service from them in a diversity of methods. This forced labour was extracted everywhere, and was commonly recognized since *vishti* or *pida*. In Kashmir, it was described *bharodhi*; *utkhetana* in Assam had almost certainly the similar import. There could be many kinds of forced labour depending on the nature of the occupation it was needed for. Since the term *bharodhi* suggests, forced labour in Kashmir was in the shape of carriage of loads, but even there Kalhana could distinguish thirteen kinds of it. Inscriptions usually refer to all types of forced labour or forced labour since per the occasion, but those from Nepal specify many kinds, an motivating example being *bhatta-vishti*, i.e., *vishti* involving carrying goods to Tibet. Care was taken in relation to the extraction of forced labour from the surplus labour-time of the producing masses therefore since not to disturb the revenue-yielding manufacture procedures, such since sowing the seeds or harvesting the crops.

The State and Stratification—1

The possessions that were drawn off the rural world through the state to non-rural regions made the countryside therefore much the poorer; in themselves, they would not have affected the nature of stratification in agrarian community. Though, if taxation was regressive—since it looks to have been—it could not but have deepened the fissures. Regressive taxation means that the burden of state demands was shared unequally, more through the less privileged majority than through the well-to-do strata. Regional notables such since *mahattaras* and *pattakilas* were routinely associated with state management; by this direct involvement and common power, they would have tried, with success, to manipulate the incidence of taxes in their own favour.

Then there were people and organizations whose land was officially either exempt from taxation or taxed at a confessional rate. Numerous records attest to the land of temples and of brahmanas since exempt from taxation. This was a special privilege, which was not accessible to the

common run of temples and brahmanas. In information, there was a category of land grant described *kara-shasana* where tax obligations sustained, if at confessional rates. Elite brahmanas were described *brahmanottara*, and epigraphic proof suggests that they enjoyed tax exemptions. Two categories of tax-free land described *brahmottara* and *devottara* respectively survived well into contemporary times, *brahmottara* obviously being a contraction of *brahmanottara*.

Since separate from the removal of a section of the state shares from the village was the consumption of the remaining sections in the countryside itself. A combination of conditions favoured it. There was the dispersal of the armed forces and other state personnel in excess of the realm, and it was only logical that they be paid out of the state proceeds of the locality. Then there were a big number of village possessions, e.g., vegetables, milk, fish, etc., for each of which the state demanded its pound of flesh, for which there was hardly a market usually to commute them into cash payments, and mainly of which, being perishable and/or cumbersome, presented approximately insurmountable troubles of extensive-term storage and extensive-alooofness carriage. Finally, the appurtenances of war and government described for regular mobilization of human labour for non-productive purposes, for which the people had to discover time without leaving their station.

Since the omnipresent phrase ‘*a-chata-bhata-praveshya*’—‘not to be entered through *chatas* and *bhatas*’—in the records of the era, meaning a great privilege, illustrates, their entry meant a biggest burden for the villagers. *Chatas* and *bhatas* were two categories of state functionaries, and it is generally supposed that the stage referred to only these two kinds. Though, since the combined testimony of two copper-plate inscriptions of Somavamshi kings from Sonpur in Orissa creates it clear, the combination *chata-bhata* stood for officialdom in common. These two records have an identical format, in one of which state functionaries are described through the well-known term *rajapad-opajivins* but in the other ‘of *chata-bhata Jati*’ B. In the similar vein is the reference to the entry of ‘*chatas et cetera*’ being forbidden in Chandella charters, since a consequence of which the king, *rajapurushas*, *chatas* and others were to forego their perquisites or dues from the region in question.

The significant attendance of the state personnel in the villages is seen in several other methods. There is that pointed expression in the Maitraka and Rashtrakuta charters—*rajakiyanam ahasta-prakshepaniya*—which, in its unambiguity of intent and clarity of direction, is more than matched through the following graphic detail in an Assam inscription:

- ... the land is not to be entered through a number of ‘oppressors’, comprising, in the middle of others, the queen, the royal princes, the royal favorites, the eunuchs, the persons in charge of corralling of elephants and mooring of boats, the administrators tracking thieves since well since those charged with the *uparikara* tax and with the *utkhetana* impost.

Two points may be noted. The reference is to a plot of land, not a village, which creates it clear that 'entry' does not mean trespass but denotes the obligation to serve the visiting 'oppressor'. Second, these obligations, e.g. the obligation to uphold an elephant or two, implied not only deliveries in type but also labour service. A late commentary on the *Mahabharata* creates matters explicit through likening the king, who foists his elephants on his subjects, to the cuckoo; significantly, this act is described an example of *vishti*—the obligation to uphold royal elephants belonged more to the category of labour service than to payments in type.

A crucial characteristic of stratification in the agrarian community was therefore a cleavage flanked by what may be described the state class and the rural populace. It also looks reasonably clear that the attendance of this state class bore heavily but unequally on the agrarian classes. It was the general peasantry that bore the brunt of the demands of the officials in the neighborhood. For example, only those brahmanas who were measured no dissimilar from the shudras in status were usually seen fit for doing forced labour. In hilly areas like Kashmir and Nepal, it is true, that in principle no one, not even brahmanas, were exempt from it; it was only in lieu of vast wealth and in side of hunger strike that the Kashmir king could exempt a some priests from it. Though, since references to fines for not doing job in both the areas illustrate, the obligation to perform *vishti* or *rudhabharodhi* could always be bought off through those who had the wherewithal. The attendance of the state class therefore served to accentuate the already existing divisions in the agrarian community.

A extremely little number of references to royal land in the inscriptions illustrate that the government at times owned land and got it cultivated since private landowners did. This was qualitatively dissimilar from extracting revenue from the people. This role of the state is also seen in a ninth-century text from Bengal, the *Devi Purana*, which 'recommends that ... the ruler should resort to direct farming in the nearest lower areas of the fort and, for this purpose, he should create the residents of the neighboring villages render service to him'. In Kashmir where the state is recognized to have held a monopoly of the high-value crop saffron, such a role of the state would have been conspicuous. A sure interpretation of a category of land-grant inscriptions, put forward through noted scholars such since V.V. Mirashi and Lallanji Gopal, would paint a distant longer picture of royal farms in early medieval India. A sizeable number of plots of land *held through individuals* are recognized to have been *donated through the king*. In the similar fashion the king is seen to be giving absent irrigation possessions in quite a some of other instances. How could the king provide absent what he did not own and possess? On this reasoning, all this is taken to constitute proof for state-supervised agriculture, with the individuals interpreted since temporary tenants having no rights in excess of the land. This interpretation, though, is based on the assumption of either royal

or individual ownership of land in exclusive conditions. There are rival interpretations of the similar proof based on the similar assumption; D.C. Sircar, for example, thinks that the king purchased the land from the individual holding it before creation a pious gift of it. In information, there is no internal proof at all for the act of purchase, nor for the individuals being temporary tenants.

The issue has been clouded through the assumption of either royal or individual ownership of land, which we have already established to be rather unhelpful. Once this assumption is discarded and other relevant pieces of proof brought in, it becomes clear, that in that these were usually instances of co-long rights in land. What the king was giving absent since *bhumida* was state claims in excess of the land owned through the peasants, except for in such cases since the one seen in the Jesar Plate of Maitraka king Shiladitya I, when a piece of land was of a missing peasant and therefore was exclusively state property at the time of the grant. These alienations of revenue and other rights in excess of the land and person of the agrarian classes were the mainly significant method in which the state altered the character of agrarian community in early medieval India.

The State and Stratification—2

The land grant inscriptions from North India that are recognized to us make an unmistakable impression that the huge majority of them relate to transfer of state claims to religious personnel and organizations. In order to have a precise thought of how these grants affected the agrarian building, we have to take into explanation first the details of the claims being granted and then the conditions on which these were transferred. Once the structural significance of these grants is therefore clarified, further issues of relevance—including questions of level—may be discussed.

The details of the transfer in these hundreds of records are of course not recounted in a uniform manner all in excess of during. The similar type of obligations could be expressed differently, and not all state claims seem in all the records. For example, *bhaga* occurs since a fairly general name for the principal land-tax, i.e., one on the biggest produce, but *dani* and *udranga* ardhana from Uttar Pradesh were its significant variants. The variation in the format of grants flanked by the charters of dissimilar kingdoms could be considerable. One biggest contrast was noted through R.S. Sharma:

- Under the Palas and Pratiharas all agrarian rights such since the exploit of pasture grounds, fruit trees, reservoirs of water, bushes and thickets, forests, barren land, low land, land under occasional flood, etc. were transferred to the donees.
- Under the Rashtrakutas, though, except for the lines of trees ..., which too are mentioned in later grants, no other village possessions were specifically transferred to the donees.

Even Sharma, who reads much significance in the enumeration of these possessions, discovers it hard to accept that the contrast stands for actual variations in the state of affairs in the respective kingdoms. Differences are seen in information in the middle of the charters of single areas or dynasties since well, not presently flanked by them. The details on the 'oppressors' of the village in the Assam grant already quoted, for example, are usually missing from the other grants in the area; surely, though, this does not entitle us to infer the absence of these 'oppressors' elsewhere in the realm. A revise of the records of the Paramaras of Malwa has brought out more than nine methods of enumerating the possessions that were granted. Analysis illustrates that, despite the variations in enumeration, in each case all that the state had been asking for therefore distant was being made in excess of to the donee kingdoms. Yet there are many indications that what we see in the post-Gupta inscriptions are therefore several dissimilar methods of creation a general point, viz., the state was handing in excess of to the donees all the claims in their numerous specific details and caveats that it had exercised therefore distant in excess of the region being granted. This general point does not mean of course unvarying uniformity. The point rather is that both uniformity and difference need to be demonstrated by textual and contextual examines of the sources rather than through taking them at side value.

Differences in few specific details, both within and a cross areas, are relatively easier to detect. To take an obvious instance, step-wells and water-wheels do not happen in the middle of the taxable possessions of Eastern India, since is only to be expected. Then there are a number of conditions, which are recognized to have been names of taxes or taxable possessions, but their precise import eludes us, therefore specific they were to their time and lay. One such term is *mayuta* that occurs in the tenth century Rajor inscription from Alwar area in Rajasthan. F. Kielhorn, the editor of the record, pointed out, there is no mistaking the term 'since the inscription is written and engraved extremely cautiously'. Though, the term has been wrongly spelt through Ghoshal and, following him, through Sircar, and also wrongly interpreted since equivalent to *bhoga bhogamayutaday-abhyam* in the record.

It is also possible to discern differences in excess of time and legroom in the mode of creation demands, since well since in the overall burden of taxation. In few early records from Orissa and from Western India, the principal taxes were demanded in cash and a sure trend in this direction may also be seen in Bengal in the later centuries of our era. This remained of course a limited phenomenon. There is a sure impression in the middle of historians that the number of imposts increased in a marked method by the early medieval centuries, creation for heavier taxation. This impression of the rising number of taxes, though, is based on arbitrary selection of a extremely little

number of records. It requires be thoroughly verifying first and then comparing with that formidable benchmark of taxation in the earlier era, i.e., the *Arthashastra* of Kautilya, where, to quote Kosambi, ‘fines take up nine full columns of the index to Shamasastri’s English translation’. The point, though, is that even establishing an augment in the *number* of imposts may not be decisive on the case for higher taxation. After all, at the end of the day since it were, the Delhi Sultanate, with its much shorter list, was levying no less. It would not do to compare numbers alone *in excess of* dissimilar states; within any given kingdom, it would of course do.

We may believe a dissimilar set of indicators in the sources, which, taken jointly, point to the ever-rising incidence of taxation by our era. The aforementioned Rajor inscription mentions customary and non-customary taxes; the division implies the addition of new taxes to earlier ones. It suggests that the king was declaring his own taxation to be unjust, at least in section, in the act of creating a pious donation—an unlikely scenario. A common tendency for taxes to augment may also be detected in a special praise for the founder king, Mularaja, of the Chaulukyas, who dislodged the Cholas of Gujarat. In a poetic pun on the word *bali*, he was credited with having ‘fettered’ *bali*, that is taxes, and therefore was like the god Vishnu who, in his Vamana incarnation, had restrained the demon king Bali. Yet the Chaulukyas themselves accepted out later a fresh assessment, unfettering the *bali*! Finally, we have the testimony of Kalhana, who recounts in detail how king Harsha of Kashmir enhanced taxes to an unspeakably harsh extent.

There are, therefore, fair grounds for supposing a tendency to rising burden of state claims. But it does not look that this was usually affected via land grants, through authorising the donee by grant of arbitrary dominations to fleece the people since he wished. The state made in excess of its own rights to the donees, who were authorised to exercise precisely those—no more, no less. This is *positively* shown through phrases such as *yathadiyamana*: people were enjoined to pay since they had been paying therefore distant. The state claims being transferred incorporated of course the possibility of additional income in future, such as through receiving fallow land cultivated. To quote the Rajor inscription again, it refers to *nibaddha* income since well since one that was not therefore. *Nibaddha* means ‘registered’, and therefore looks to stand for surveyed and assessed sources of income; the remaining ones would be *anibaddha*. Such additions were clearly not the similar thing since the donee being empowered to augment the rate of taxation.

There is hardly any indication in the charters that the communal agrarian rights of the people were dented *for the first time* through the royal grants. Once it is seen that the people were asked to pay to the donees what they had therefore distant been paying to the state, and that the taxable possessions incorporated pastures, ponds, forests, fisheries and the like, it follows that these possessions were already subject to taxation in the scrupulous state. Contrary to what is argued

sometimes, they were not the communally controlled possessions in excess of which the said state had laid no claims itself but, in the act of transferring them, made them subject in future to levies through the donees.

Two biggest patterns in the occurrence of sure key conditions have been exposed through Sharma, which require be noting and accounting for. One is that *vishti* or forced labour 'practically disappears in the records of the Paramaras, the Chaulukyas and the Chahamanas. Evidently, the practice had died out in their dominions. Likewise, the Gahadavala and Chandella records do not mention forced labour'. Second, in some early charters residents are also mentioned beside with the land or the village being granted. The residents are supposed to have been deprived of their freedom of mobility through such acts of grant which multiply in the later era. The grants which do not refer to the peasants and other residents in this fashion did not tie them to the land. For example, 'Epigraphic records from Bengal do not refer to the transfer of peasants to the donees down to the end of the twelfth century. But later the practice spread to this section of the country since well'.

Few authorities feel uneasy in relation to the first pattern without being able to vary it. The second pattern, i.e., reference to the residents being mentioned in the account of the grant, though, has been seen through the critics since having no special significance at all, being presently one more method of creation mere revenue grants. The inclusion of the residents in the middle of the possessions being transferred beside with the land, it is argued, placed them under no other obligation or restraint than payment of taxes to the donees. This variation of opinion, you should note, is in excess of the inscriptions where the residents are mentioned *since section of the account of the land/ village being granted*. There are a handful of records from Western India, where some peasants themselves—since a category of their own—figure since items of grant. There is no controversy concerning the dependent status of these peasants, to persons of same status references being establish in the literary sources too.

In our view, these patterns, in order to be properly understood, needs fuller source criticism since well since a wider perspective on state demands. If we bear in mind the three biggest components of the demands, and take into explanation the totality of the proof—proof of the whole building of any given record, not presently of few conditions in it, and of all the accessible records, not presently of a some—we shall see a confirmation of the point we made earlier: The similar three kinds of state demands were being transferred everywhere. People were liable to perform labour service and were subject to the commands of the donees, even where the scrupulous conditions in question are not established. The similar implications were present in dissimilar methods when *vishti* does not happen, and likewise, even where the residents were not enumerated in the middle of the

possessions that went with the land, other thoughts illustrate that they did not become exempt from the power of the donees.

The Chandella charters have been noted for the absence of any reference to *vishti* since well since for the inclusion of the residents—‘artisans, peasants, merchants’—in the middle of the possessions being transferred beside with the land. They have also been noted for lengthy lists of possessions: ‘The Chandella charters present the mainly elaborate list of the village and its products made in excess of the donees’. Though, we discover that although all the land-grant records of the Chandellas have the similar format, only two records refer to the transfer of the residents; the rest do not since *karu-kapamka-vanij* or since *karuka-pamkavanij*, but is obviously a mistake, since Sharma pointed out, for *karu-karshaka-vanij*. In one record, there is only one phrase on the village possessions. In few, people are asked to pay, extremely briefly, ‘*bhaga, bhoga, et cetera*’, in others, *pashu-hiranya-kara-shulka* is added before the ‘et cetera’, and therefore on. We would not have recognized whether the Chandella kings donated income from fines too, but for two records which have *dandadaya* in the list and, besides, refer to the twofold division of the imposts since customary and non-customary.

If we go through the differences alone, as suggested, have to conclude that separately from the two exceptions, the rest of the residents in the donated villages were free to keep or move since they liked, that usually the donees did not have the right to levy fines from the people, including even those in the two villages where they were transferred beside with the land, that the imposition of non-customary taxation was an exception rather than the rule, and therefore on. But if we seem at the overall building of the records and take into explanation the other conditions and phrases, it becomes reasonably clear that as suggested, have to conclude differently. The ‘et cetera’ in ‘*bhaga, bhoga, et cetera*’ of one Chandella record incorporated the imposts specified in the other Chandella records such since fines, *pashu-hiranya-kara-shulka* since well the other taxes *which might have been in force but are not recognized from the accessible proof* which, incidentally, provides us no clue to the nature of division flanked by customary and noncustomary taxes. When the sum-total of all state claims was being gifted it did not matter if the possessions were listed in full or section. If people were asked to be attentive to and comply with the command of the donee things did not transform materially due to the non-mention of the residents in the account of the grant. People transferred with the land or placed at the donee’s command could not perhaps have refused him service. And if we know of no early Indian state which did not demand generalised labour services from its subjects, we are not entitled to assume the absence of the practice in the Chandella state.

The conditions on which the state claims were transferred to the religious personnel and organizations created a shape of agrarian property. The grants were made in perpetuity, ‘since

extensive since the moon and the sun endure’ since the phrase went. This was typically done through the ritual of libation of water. The adage that we have already alluded to reads in full since follows:

- adbhir = dattam tribhir = bhuktam sadbhis = ca paripalitam | etani na nivartante purva-rajakrtani ca
- ‘granted with libation of water, enjoyed through three, properly maintained through good people, and granted through previous rulers—these are not to be confiscated’.

The reference to grants made through previous kings designates that the first thing refers to grants made through the reigning king. The second category may be understood in conditions of the distinction flanked by *bhuj* and *agama*; it refers to the early *Smṛiti* view that three generations of enjoyment provide the title to the land. The third category concerning ‘proper maintenance’ and ‘good people’ has already been discussed. The importance of this adage lies in showing the emergence of religious land grants since a recognised shape of agrarian property, on a par with the other, older shapes. Grant with ‘libation of water’ symbolizes this shape here, but in the inscriptions it is underlined in more than one method. In the records of the Kalachuris of Tripuri, ‘libation of water’ is in information generally *replaced* through *shasanatvena*, ‘through *shasanatva*’, translated somewhat unsatisfactorily since ‘through means of a grant’. More usually, aside from the reference to the libation, the property rights were called in conditions of rights to ‘enjoy the land, cultivate it, get it cultivated, and assign it’: The donee was to exercise these rights in the similar methods since the state had done therefore distant, which also entails that the donee was to respect the extant agrarian rights of the people since the state had done therefore distant. The clearest report on the granted land since property occurs, it may be pointed out, in the Chandella charters, where the donees’ rights are stated to be ‘gift, mortgage, and sale’, separately from those of enjoyment, farming and the like.

By the making of this separate shape of agrarian property was described into subsistence a separate class of landlords in early medieval North India. They claimed a share of all types of produce in their region, and enjoying extra-economic power in excess of the people, became their lords. Many elements of such land lordship are seen. At the lowest a little tract of cultivated land, was assigned to a brahmana. In other cases dozens of them, sometimes more, sometimes less, would be collectively granted a village or villages. The more common practice looks to have been the grant of one village to one person, at least at a time. But there was also the University of Nalanda in Bihar having two hundred villages and the temple of Somanatha in Gujarat, reportedly the owner of two thousand villages. It is impossible to say with precision at what level the grants were made

throughout our era. There are many indications, though, that a fairly substantial number of landlords were therefore created.

Through and big the kings of early medieval North India refrained from creation such grants to their officials. The state functionaries were no doubt granted land revenue for their services, but it was highly rare for them to be granted state claims in excess of land on a hereditary foundation; an instance of such an rare example may be seen in a Chandella inscription, when a person was granted land in this fashion on the death of his father in war. The officials, with their service perks and grants, were of course present since members of the state class in the agrarian community. In times of weakening state manage, they usurped domination at regional stages and became hereditary lords. But, to repeat, it does not look to have been regular state policy to create hereditary landlords of its officials, in sharp contrast to regular state policy towards religious personnel and organizations.

Yet there looks to have lived, on a fairly widespread level, secular counterparts of the religious grantee landlords armed with state claims in excess of land and people. They were self-created potentates rather than beneficiaries of state grants. A number of conditions in the inscriptions and literature indicate their attendance in a extremely intricate composition, but precise details await clarification by research. B.N.S. Yadava has referred to the common category of *bhogins* in the literary sources, one of which refers to *bhogins* seizing villages, and another likens them to kings. One local instance of such *bhogins* would be *damaras* of Kashmir. More than one reference in the *Rajatarangini* suggests that the *damaras* arose out of the ranks of wealthy peasantry to dominate the countryside individually and pose a threat to royal domination collectively. Distant from being creations of the state, they struck out on their own and competed for a share in state domination with the central domination, which followed a conscious policy of preventing the rise of such clusters. Their location since landlords would have been analogous to that of the state-created landlords in that they would have the similar types of claims on the agrarian classes, but dissimilar in that while the *damaras* survived and prospered through their own might, the religious grantees remained dependent on the continuing support of the kings, who are recognized to have, on occasion, exchanged one benefice for another, or seized a grant for few compensation, or even indulged in outright confiscation; it is also recognized that royal officials could create life impossible for the grantees.

Peasants, Sharecroppers and Landlords: Agrarian Community from Below

This section remnants one of the least recognized regions of historical research, less in conditions of material accessible than in those of interest displayed and ways deployed, however

recently there have been few fervent pleas for shifting the focus of research to agrarian clusters other than the land-grantees. A number of conditions that denote the several agrarian clusters have been noted and extensively discussed, more through Yadava than through others, with his usual breadth of scholarship. In-depth studies of the problem remain on the anvil at best.

Kutumbin/kutumbika is the commonest term for peasantry crossways our era and region. The Maitraka inscriptions include an appreciable amount of detail on them: their names and the sizes of their plots in precise spatial, chronological and economic contexts. Systematic, detailed studies of these, though, do not look to have been made, at least in English. But the impression of significant differences in the amount of land held through individual *kutumbins* suggests that the term incorporated, besides the general size of peasantry, also the more well-to-do clusters, i.e., rich peasantry. The similar conclusion is suggested for Eastern India in a common method through the reference to *pradhana* or leading *kutumbins* and those of lower status, and in a scrupulous method through the references to a *kutumbin* creation a gift of land, meaning he had more land than needed for bare existence.

At the lower end, we discover *kutumbikas* in circumstances of dependence, since when individual *kutumbikas* themselves happen since items of gift. There are other conditions in the sources that bring out the subsistence of such a stratum of helpless dependent peasants, such since *baddhahalika* or *pratibaddhena yojita*. A category of landholders the *kutumbins* was that of *mahattaras*. They are recognized to have been much fewer in number than the *kutumbins* in the village, inducted at regional stages in state management, recognised since the dominant cluster in a village and bribed the king in individual capacities in pursuit of more domination and possessions. Seeing that *kutumbins* could contain a stratum of rich peasantry, it is quite likely that *mahattaras* necessity have counted landlords in the middle of them. In Western India, *pattakilas* look to have been a comparable cluster.

The significant attendance of the rich peasants and landlords who got their land cultivated through other is brought out through the proof for their labouring counterparts, i.e., sharecroppers or farm tenants. I-tsing refers to the Buddhist monastery of Nalanda receiving its land cultivated through such sharecroppers, who were significant sufficient to figure since a caste in the legal literature. Were these sharecroppers landless persons or were they smallholders, i.e., people who owned therefore little pieces of land that they needed to go in for farm tenancy? That there had been few type of differentiation in the middle of them is suggested through the *Arthashastra*'s reference to more than one type of sharecropping arrangement. Historians, though, have often assumed that the untouchable castes in India were approximately through definition landless. Lack of actual research

in this issue was underlined through Harbans Mukhia extremely sharply in the course of the Feudalism Debate:

- ... no modern proof has yet been cited to the effect that the caste organization denied them the right to hold land.
- As my familiarity with ancient Indian history is based on secondary sources, I requested three of my colleagues, B.D. Chattopadhyaya, Suvira Jaiswal and Romila Thapar ... to help me out with primary proof on this point; each has accounted failure.

It may be accounted here that in the *Rajatarangini* the king had to request an untouchable landowner to sell his land to the king therefore that a temple could be constructed on the land!

ORGANISATION OF AGRICULTURAL AND CRAFTS PRODUCTION, REGIONAL PROFILES OF AGRARIAN SOCIETY, AND NATURE OF STRATIFICATION: SOUTH INDIA

South India: The Area

South India here refers to the area south of the Vindhyas covering the regions where the Dravidian words are spoken and excludes the northern mainly area which is now section of Maharashtra, i.e., not the entire of peninsular India. The geography of this area creates a motivating revise with two biggest divisions i.e., the Deccan plateau and the plains. The Deccan plateau is now represented through northern and southern Karnataka and sections of Andhra area i.e., Telengana and Rayalasima marking the eastern edges of the plateau and the coastal plains of Andhra, watered through the Godavari and Krishna valleys, where the agrarian tracts are concentrated from early times. Agrarian expansion, i.e., extension of agricultural behaviors was an ongoing procedure and starting from the fertile river valleys moved into boundary zones—forest and hilly tracts—of rustic and hunting-gathering economies. In the Deccan and Andhra areas the delta regions of the Godavari and Krishna illustrate proof of early agricultural settlements and the superior Deccan plateau is marked through smaller agricultural pockets in the valleys of the transitional and upper reaches of the Godavari and Krishna valleys and the tributaries and the upper reaches of the Kaveri in southern Deccan or Karnataka.

Of the south Indian areas the Tamil area, which has been the focus of biggest studies on agrarian organisation and the state, gives the mainly impressive proof of this growth. Although the Deccan and Andhra areas, on which much less job has been done, have equally significant proof on the institutional procedures of agrarian organisation and manufacture, the nature of the pre-

Brahmadeya agricultural organisation is small recognized, except for in the shape of primitive agriculture or existence stage settlements in the river valleys and rustic and hunting-gathering settlements in the boundary areas like forests and hills. The Andhra Delta also has *Brahmadeyas* but the early Copper Plate records of grants are short and provide no details. Later ones provide more information. In Andhra the *Brahmadeyas* of the 6th to 8th centuries have not been studied therefore distant with a view to discussing their role in agrarian integration.

No organised peasant micro areas of the type that lived in the Tamil country are recognized. The Tamil plains are more continuous, with conspicuous agrarian tracts in the biggest river valleys like the Kaveri, Vaigai and Tamraparni valleys and minor river valleys like the Palar and Pennaiyar, even from the early historical era, which later came to be re-structured into the new agrarian order by organizations like the *Brahmadeya* and the temple. Tamil Nadu also has a rich corpus of early Tamil literature, which gives proof of the *marutam* since distinguished from the *mullai* and *kurinci* since eco-zones with dissimilar economic behaviors such since agricultural, rustic and hunting-gathering respectively. It is the expansion of agricultural behaviors within the *marutam* area and beyond into the other eco-zones that spots the opening up of agrarian tracts and their integration by the Brahmanical organizations from the 6th century AD. It may be assumed that a same procedure of the opening up of agrarian tracts occurred also in the Andhra and Karnataka areas, starting from the fertile river valleys and beyond into the forest and hilly regions. Hence the early *Brahmadeya* and temple settlements appeared in the coastal area of Andhra plains from the 4th to the 10th centuries AD and the drier areas of Telengana and Rayalasima came to be integrated into the new agrarian order from the 11th to 14th centuries. In Karnataka the upper and transitional reaches of Krishna and Kaveri with their tributaries with narrower plains were colonized early i.e., from the 4th to 9th centuries and then followed the expansion of the new agrarian order into the boundary zones.

The beginnings of this procedure may be placed in the era from the 4th to the 6th centuries AD in the Deccan and Andhra areas, where the Brahmana-Kshatriya allies in domination viz., the newly founded Brahmanical dynasties like the Vakataka, Kadambas, Western Gangas and Vishnukundis introduced the *Brahmadeya* and the temple since agrarian organizations of expansion and integration. The early Pallavas before they moved from the Andhra area into the Tamil country were also participants in this procedure. From the 7th to the 9th centuries under the Chalukyas of Badami and the Rashtrakutas of Manyakheta agrarian resource bases were created in the upper Godavari and Malaprabha-Tungabhadra i.e. tributaries of the Krishna. Under their subordinates and minor ruling families the southern Deccan came to be integrated into an agrarian foundation in the upper Kaveri valley. Later the Western Chalukyas and Hoysalas sustained this procedure from the

10th to the 13th centuries AD, therefore bringing into subsistence the several politico-cultural areas of South India with huge agrarian resource bases.

Organization of Land Grants: The Brahmadeyas and Agrarian Expansion

The grant of a *Brahmadeya* was measured since the supreme Dana and was sought to be protected through specific injunctions and imprecations against those who tampered with it or destroyed it in any method. Following the *Dharma Sastric* injunctions the ruling families made grants of land to the Brahmanas, on occasions like victory in war or for special astronomic phenomena like eclipses, in regions of agricultural potential with existing settlements or in new regions extending agricultural operations. On such occasions the Brahmanas were given *pariharas* or exemptions from several obligations including revenue payment to the king and given administration rights in excess of land and farming procedure. Exemptions meant usually non-intrusion through royal or government functionaries and troops into such regions, while sometimes a specific amount of revenue was levied annually or for all times.

Deforestation and extension of farming in hitherto uncultivated land and settling actual tillers/agricultural workers in effect meant that the agrarian foundation was extended and king's power recognized for the first time, where it did not exist earlier. Hence the *Brahmadeya*'s politico-economic role in agrarian expansion was significant. A *Brahmadeya* was not exclusively populated through Brahmanas, but was often inhabited through non-Brahmana cultivators or service personnel working for the village since a entire and for the land controlling Brahmanas. Hence a type of landlord-tenant or service connection evolved in newly recognized *Brahmadeyas*. There are also instances of pre-existing rustic-cum-agricultural settlements which were clubbed jointly and granted since *Brahmadeyas*, wherein the lordship and administration rights were given to the grantees. The temple, which either came up beside with the *Brahmadeyas* or independently in such settlements was equally significant in the agrarian integration, yet the temple assumed greater importance since the integrative organization from the 10th century AD in gradual stages in all the south Indian areas. Grants of land and other items to the temple were also administered through in the vicinity influential land controlling clusters like the Brahmanas and also dominant agricultural clusters other than the Brahmanas.

Land grants could be either made to a single brahmana or to a cluster of brahmanas or for the maintenance of a Brahmanical educational organization. With each of the *Brahmadeya* and temple settlements an irrigation organization was invariably recognized either in the shape of tanks, canals or wells.. Several of these projects were initiated through the rulers but supervised through the

regional bodies especially the *Sabhas* or assemblies of the *Brahmadeyas* or the Mahajanas. Elaborate arrangements were made through these assemblies for the upkeep of the irrigation works, including maintenance, repair, and attention to silting and manage of water supply and specifying committees since in the *Brahmadeyas* of the Tamil area, for their supervision and management. Therefore effective administration was the key to the variation flanked by the cultivation civilizations of the early historical and early medieval eras.

The Tamil Area: The Pallavas: 6th to 9th Centuries AD

In the Tamil area the history of this growth extends from the 6th to the 13th centuries, which may be further divided into two stages, first from the 6th to the 9th centuries AD and the second from the 10th to the 13th centuries AD. Eventually it led to the making of dissimilar stages of intricate land rights, larger and subordinate, and to a stratified community based on economic status and more significantly on the Varna ideology creating caste distinctions with rising occupational diversification and the temple becoming the reference point for all such distinctions in status, particularly ritual status.

The early Pallava grants in Prakrit and Sanskrit refer to villages in the Krishna and Guntur districts, and further south in the Nellore district. Here the *Brahmadeya* looks to create its first appearance till the establishment of Pallava territorial power in excess of the northern area of Tamil country, with Kancipuram since their centre of domination. Henceforth the bilingual copper plates in Sanskrit and Tamil record grants of *Brahmadeya* land in new regions since well since preexisting, cultivated regions in the Palar-Cheyyar valley and further south into the Pennaiyar and Kaveri areas. These records are extra ordinary documents for reconstructing the growth of agricultural economy and agrarian organisation in dissimilar stages. The *Brahmadeyas* and temples may be seen since harbingers of advanced cultivation ways such since irrigation technology and seasonal farming procedure. This is clearly recognized through the Pallava-Pandya records, when they are measured in the context of their geographical and ecological setting. They are also useful since records providing the mainly detailed references to the nature of the organisation, both agriculture and craft manufacture, which was usually complementary and supplementary to agricultural behaviors.

The Brahmanas were organizers and managers of manufacture in the *Brahmadeyas* and the Velalas or land owning peasants in the non-*Brahmadeya* ple. In the *Brahmadeya*, the Brahmanas, due to their specialised knowledge of astronomy, would have introduced an unit of predictability in yields, on the foundation of seasonal sowing, cropping patterns, since well since effective administration of water possessions. Hence in the records of this era, demarcation of boundaries,

establishment of “ownership” or enjoyment rights, nature and category of land and the number of crops to be raised become significant details.

The *Brahmadeyas* in mainly cases meant the giving absent of rights, economic and administrative, to the donees. Instances do not want to illustrate that that they were not totally exempt from revenue payments to the king. The real advantages place in integrating older existence stage settlements and non- *Brahmadeya* villages farming, both waste and forest land and creation them surplus oriented. There are also examples of many pre- existing settlements being clubbed jointly into a new *Brahmadeya* or integrated into it the century AD. The tax exemptions given to the *Brahmadeyas* do not obviously apply to such villages therefore brought into the organization, unless otherwise specified.

The circulation of possessions was by the *nadu* or *kurram*, which were existing and entrenched peasant areas, duly made into revenue elements through the early medieval states—Pallava, Pandya and Chola. The circulation of possessions was also effected by the temple. The older existence stage settlements were section of the *nadus* and quite some of them were integrated into the new agrarian order by *Brahmadeyas*. Their extent cannot be precisely determined. Regular revenues reached the royal *bhandaras* by such circulation. Yet, at the regional stage, the chief beneficiaries of the redistribution procedure were the in the vicinity powerful elite, temples and brahmanas, separately from temple functionaries and tenants. The co-ordination of the manufacture and sharing procedures were in the hands of the *sabha* and *Ur*, the latter often working in secure collaboration or cooperation with the brahmana *sabha* or under their guidance and often since *nattar* or since members of the *nadu* assembly, whose role in the organisation and manufacture of agricultural possessions was significant, particularly with regard to the general agrarian troubles like irrigation and mobilization of labour and means of manufacture and redistribution. The *Brahmadeya* was administered independently of the *nadu* and hence the *Ur* is less conspicuous in the epigraphic records while the *nadu* and *Brahmadeya* are prominent.

In the *Brahmadeyas* and temple centres, land dealings therefore came to be organised approximately these two organizations, with three categories of landowners- the brahmana, the velala and the temple—emerging since the regional elite. All the occupational clusters were placed in a ritual hierarchy approximately the temple within the *Varna* framework, depending on the nature of their profession and connection with the temple since service clusters.

Cesses seem to have been usually levied in type and these ties in with the low stage of monetisation in this era. There were cesses on the production of salt, on looms, on markets, oil mills, etc. Not only goods but services too look to have been provided to the donees since indicated through the cesses on potters, weavers, blacksmiths and others. There is few degree of controversy in relation

to the whether the *Brahmadeyas* were actually freed from complete taxation. For instance the Pullur plates refer to '*pannirattai-k-karaiyirameyam*' which has been translated since 'nonpayment of taxes for 12 years'. In other languages such grants were meant to develop agriculture and extend farming initially and were brought under taxation after few years.

The Nature of the Brahmadeya Grant: The Pariharas or Immunities

It would be useful to set out the earliest references to immunities based on the *Dharmasastric* injunctions, the *pariharas* generally numbering 18. This would provide us an thought of how the administration of farming and manufacture of allied crafts since well since non- agricultural behaviors, were placed under the new land controlling grantees. It would also illustrate how few type of a dependency flanked by the land controllers and landless cultivators and craftsmen was built up within the village due to the village craftsmen being paid in the shape of land produce or assigned land in lieu of such payment. The Pallava Copper Plate grants of the 4th-6th centuries AD inscribed in Prakrit and Sanskrit refer to such *Brahmadeyas* in the Guntur, Krishna and Nellore districts. The 18 *pariharas* or immunities are not listed in all the grants but the implication was that wherever such taxes or cesses lived; they require not thereafter be paid to the king or his representative but to the grantees to whom services also had to be provided.. Donees were also given the services of labourers getting half the produce. It is motivating to know that mainly of the grants of the 6th to 9th centuries era were made also on the request of a *Vijnapti*, invariably a regional chief or through a royal functionary and executed through an *Anjapti*, pointing to the information that the reorganization of agricultural manufacture and manage was widespread and adopted even in the tracts of minor chiefs who carried the over lordship of the new dynasties.

The land grants of the 4th-6th centuries AD in Prakrit and Sanskrit, give details of the *pariharas*, which were evidently based on the *Dharmasastric* rules. Often a entire village including garden land was granted and the royal *sasana* was addressed to *gramabhojaka*, *grameyakan*, *adhikrita*, *sarvadyaksha* of district *sasana samcharin*, *govallavas*, *aranadhkato* and others in service. Villages were converted into a *Brahmadeya* with 18 *pariharas* with the exception *devabhogahala*. Therefore when a village was granted, all lands with the exception of *devabhogahala* were given. The term *vasadbhogyamaryada* points to 'enjoyment through residents or tenants' occupancy rights, which were assured. Taxes payable through *loha-charmakara*, *apana-patta-kara*, *pravaranchara ratihara*, *apana ajivika nahala*—taxes payable through barbarians and outcastes, *mukha dharakas*, *kupa darsakas*, *tantravaya*, *dyuta*, *napita* and on *vivaha*, taxes and tithes payable through artisans enjoying privileges of *sarva parihara* would also indicate the nature and rising number of crafts and professions in a resolution. In information these immunities would also

indicate the types of crafts that were accepted on in the village and how they were section of a big number of service clusters inhabiting the village with dependent connection with the grantees that had larger rights in land. Their remuneration was often in the shape of the assignment of land or its produce within the village, which consisted of distinct livelihood quarters for them. The later grants either refer to the *pariharas* in common or mention increased number of taxes and cesses depending upon the rising complexity of the productive procedure and of the administrative organisation of a rising state. It also points to agrarian expansion and an extending resource foundation of the ruling dynasties. This is the case with mainly grants from the 9th century AD.

In the bilingual land grants of the 6th -9th centuries AD boundaries are defined and the nature of land called such since *nir-nilam*, *pun-cey*, *kanru-mey pal*, *kadu*, *pidilikai*, *kidangu*, wells, *manai*, *manai-p-padappu* and all lands “where the iguana runs and tortoise crawls”. For instance the Pallankoyil grant of land to Vajranandi, a Jaina teacher, in Sramanasrama or Amanserkkai, a Palliccandam, with same rights and privileges records that the existing tenants were removed and the rights of king and his power removed. The term *kudi-nikki* translated since removal of existing tenants has been a matter of debate since it is also taken to mean that the existing kudi the grant did not contain the kudi or occupants/cultivators of the land or that the rights to transform the occupants or retain them on the land were clearly mentioned. It does not necessarily mean eviction at will.

Brahmadeya lands are often seen to be held in shares through the grantees. For instance, the Kuram Plates assigns land to the temple priests and for worship, repairs, water and fire for the temple, recitation of *Bharata* since *devabhogam*. The rest of the 20 sections in the village were constituted into a *Brahmadeya* for 20 *chaturvedins*. Crafts like oil pressing, loom/weaving and *kulam*, smithy –on blacksmiths? Rights in excess of the Perumbidugu channel from the Palaru River were also given for water possessions.

The Udayendiram plates of Nandivarman II records a grant made on the request of the Vijnapti, Pucan, a chief, just as to which two villages in Paschimasraya nadu of Paduvur *Kottam* were combined and converted into a *Brahmadeya* with all immunities with the name Udayachandra Mangalam. The Vijnapti is a petitioner, often a chief or an administrator, seeking permission from the king to create a grant. The term *paradatta* or *paradatti* therefore points to a grant through others and not directly through the king. With two *jalayantras* for irrigation in *Korragrama*, the 108 brahmana grantees had 133 shares of land.

The Kasakkudi Copper Plate –753 AD—Ekadharamangalam was addressed to the *nattar* of *Urrukkattu-k-Kottam*, the already entrenched peasant organisation. The grant was made in the attendance of *Nilaikkalattar*, *adhikarikal* and *Vayiketparu*, excluding previous grants made to temples, brahmanas and the homes of *ryots*? The land measure is here described *patti* or *pattikai*. The

exploit of water channels from the rivers Vegavati, Seyyaru and the tank of Tiralaya and specification of the type of land such since *Nir-nilam*, *pun-cey*, *manippadaippu*, etc. points to the facilities provided. The donee and his descendants were given the right to build homes and halls of burnt tiles. This grant is one of the mainly significant since it gives proof of a superior number of taxes or cesses. Tax exemptions incorporated *sekku*, *tari*, *ulliya-k-kuli*, *brahmanarasakkanam* brahmanas or tax payable through them, *sengodi-k-kanam*, *kallal-kanam*, *kusakkanam*, *kanittukkanam*?, *katirakkanam*, *arikori*, *ney-vilai*, *puttaka vialai*, *pattigaikkanam*, *iramaleyan-nayatikalum-tutuvarum*, *kanikarttikalum*, *pannuppaledupparum*, *putukkutikai-k-kurratuveyiyum*, *pullumiramaiyum* les, grass?, *nalla-a*, *nallerudu*, *nadu vagai*, *patankariyum kaiyalum*, *nedumbarai*, *panampakkum*, *karanadandam*, *adhikaranadandanam*, *pattur sarru* m in the nearby villages, *ulavai-palli-vattu* ite for the Jaina temple, *kuvalaneduvaru*, *kuvalekkanam*, *kal-kotturamai* palms and coaconut trees or tax on digging channels.

The Pullur grant combined four villages all in Palakunra *Kottam* and named it Nayadhiramangalam, since a *Brahmadeya* grant to 108 Bappa Bhattarakas. Being addressed to the *nattar* it specifically mentions the removal of all power through placing it beyond the jurisdiction of the *nadu* kappan, *viyavan* with all *pariharas*. Few of the new conditions are *Koyil-vasal sekku*, *ettakkanam*, *sadippon* and few look to refer to several allied economic activities. The Tandantottam Copper Plate refers to a grant of land to the west of Tandantottam in Ten-karai-Naraiyur *nadu* in Chola *nadu* since *Brahmadeya* described Dayamukhamangalam to 308 learned brahmanas from the Telugu country, who had studied the three *Vedas* and *Smritis*. The shares are specified, the main being 12. Addressed to the *nattar* of *Tenkarai-Naraiyur nadu* the grant provides exclusive rights to the grantees in excess of water channels. New conditions like *tattukkayam*; *Ilamputci*, *Idaipputci*; *taragu*; *tirumugakkanam*; *uppukkoceigai*, *vatti nali*, *kadaiyadaikkyum*; *puda nli nali* would illustrate the virtual exercise of manage in excess of the new resolution through the grantees.

The Pattattalmangalam Copper Plate of AD 792 created a new *Brahmadeya* out of the 40 *veli* of land that lived approximately a village in Arvala-kkurram in Chola *nadu*. To this two more pieces were also added and integrated into a new village described Pattattalmangalam and granted it to 16 brahmanas. Addressed to *nattar* of Tenkarai Arvala-k-kurram, it mentions amenities, separately from the usual ones, like *manai*, *manai padappum*, *kottagaram*, *uvar*, *urpalum*, *kadu*, *odai*, and *parambu*, etc., the rights of king and his authorities in excess of the village were removed, while the *kudi-nikki* meaning previous occupants also look to have been removed. New conditions—*manru padu*, *uratci*, *nadu kaval*, *udupokku* s or mainly almost certainly rights for passage by an region, *ner-vayam* again point to an rising number of privileges or tax exemptions to the brahmana donees.

The Velurpalaiyam Copper Plate of AD 852 records the grant of *utpuravu Deavadana* for services linked with worship of Siva at Titukkattupalli. It was addressed to the temple assembly—*paradai*? And the immunities incorporated the *nadatci*, *uratci*, *puravupon*, *tari-k-kurai*, *nadu-kaval*, *kallanakkanam*, *paraikkanam*, *pattinaseri* and other privileges.

The Bahur Copper Plate of Nripatungavarman founded the Vidyasthana of Vagur combining three villages.

The references to *vetti*, *vedinai* and *eccoru*—forced labour and other burdens suggest a close to total dependence of the service clusters and little peasants and landless workers. The redistribution of land in the middle of tenant cultivators and marking of boundaries are implied in the conditions like *Karai-idudal*, *Ericceruvu* and *Eripatti*, *Erikkadi*. *Payal nilam*, *payaleruvaram*, *adainilam* since also the transfer of the king's share of the produce and *panam pagu*, *Kadaiadaikkay* and on cotton, medicinal plants and flowers. Irrigation was a biggest concern of both the grantor and the grantees since indicated through such detailed references to weirs and sluices, mentioning head sluices like *vay*, *vayttalai*, *talaivay* and *mugavay*. These agriculturists or peasants existed in little homes with mud walls and thatched roofs. The term *Agambadi udaiyans*, mentioned in the Uttaramerur inscription of Dantivarman, may indicate a higher stage of peasants who look to have been smaller landowners, also serving the biggest clusters like the Brahmanas and Velalas of the *Brahmadeya* and non-*Brahmadeya* villages.

The Village crafts clusters incorporated spinners, weavers, potters, cattle breeders, goldsmiths, carpenters, artisans, owners of oil presses, transitional-men and entire sale merchants.. Distinct regions lived for mainly of these peasants and craftsmen in the rural regions while in better cities and municipalities like Kanchipuram traders and merchants also had their quarters e.g., the residents of. *Videlvidugu-Kudiraicceriyar*.

In a sense the theory of self-sufficiency or closed village economy arises out of these land grants of the pre-7th century era since well since the era from the 7th to 9th centuries AD. Though, expansion of the agrarian order was continuous and the local differences and pre-existing agricultural settlements and areas required new methods of organising the *Brahmadeyas* and temple centres through retaining the existing buildings and integrating them into the new agrarian order. This is precisely what happened in the Tamil area, where peasant settlements and rustic settlements had appeared in river valley and beyond, even in the early historical era and the early medieval inscriptions referring conspicuously to peasant micro-areas.

Brahmadeya Expansion in Nadu/Kurram and Kottam

In northern Tamil area the *kottam*, a rustic-cum-agricultural area, is conspicuous and lived apparently from the early historical era, but was organised into a element of revenue under the Pallavas and Cholas. Agrarian expansion within the *kottam* took lay both due to the establishment of *Brahmadeyas* and to the making of new nadus with distinct irrigation works under the Cholas. Hence the Tamil area comes up with motivating proof of the re-organisation of agriculture and craft manufacture with the phased opening of the river valleys and beyond.

The *nadu* or *kurram* represented a cluster of villages/clan settlements, which had evolved spontaneously in the rich alluvial river valleys, with no artificial boundaries, based on kinship ties and kin labour and communal manage in excess of land, with a capability for expansion due to demographic expansion since well since extension of farming. *Nadu* is recognized since a generic term for any settled area, but became a potential element of agrarian and revenue organisation. Therefore *nadus/kurrams* came to be integrated into the new agrarian order when the early medieval ruling families introduced the *Brahmadeya* and the temple since integrative forces. *Brahmdeyas* were placed out of the *nadu* jurisdiction and the non- *Brahmadeya* villages the royal order creating the *Brahmadeya* and providing the necessary facilities to the new land controlling Brahmanas. In other languages the *nattar* and *urar* cooperated in the procedure of agrarian expansion and integration. This has been interpreted since on behalf of a Brahmana-dominant Velala alliance through the followers of the segmentary/peasant state and community theory, since the *nadu*, the peasant area is whispered to be an autonomous peasant area and hence the alliance resulted in the crystallization of a peasant state and community. This view questions the validity of the feudalism theory for the south Indian state and community, although the land grant organization gives proof of the emergence of intermediaries, both religious and secular, flanked by the king and the cultivator and suggests exploitative dealings flanked by a land controlling class and labouring class of peasants.

The Tamil Area: The Pandyas—6th-10th Centuries AD

In the Pandya area i.e., the southern districts of Tamil Nadu, the restoration of earlier *Brahmadeyas* is recorded suggesting their subsistence even from the early historical era. Yet, what was actually being done was the institutionalization of the *Brahmadeya* since the integrating force. Brahmanas were non-producing class with managerial functions. Temples were also non-producing organization with lands redistributed in the middle of peasants and others for farming. This was more rigorous in the Tamraparni valley than in the Vaigai valley, the two biggest river valleys of this area.

The land grants introduced non-producing, intermediary land owners/controllers, whom the surplus reached.

By the skill of the Brahmanas, the Velalas of *Urs* or *Nattar* and the Velalas of *Nadus*, in the organisation of advanced agriculture leading to a substantial surplus in manufacture, the kings were actually augmenting the spheres of advanced agriculture in their kingdom. The brahmana and the Velala mode of agrarian organisation integrated the rural community by its social division of labour and allied dealings of manufacture. The land grants to temples since *Deavadana Dana-Brahmadeya* also introduced same dealings of manufacture and redistribution. The transform aspects of the era were in the organisation and administration of manufacture, but not in the technology since such. Each technique was put to a wider utilization by institutional and organizational support and the capability for mobilization of labour.

The making of *Brahmadeya* villages was mostly in the regions of clan settlements. Often the founding of the *Brahmadeya* not only involved the superimposition of sure larger rights in excess of the earlier communal ownership of land, the expansion of the *Brahmadeya* organization of agrarian organisation into such regions caused the dissolution of primitive agriculture on the one hand and the transformation of the clan resolution on the other. It may not always have been a peaceful extension and hence the reference to the require for clear documents of ownership in the Velvikkudi grant, which was claimed to have been appropriated through the Sudras, a clan leader converting a portion of an early grant into a sudra resolution. The non-brahmana resistance to the expansion of *Brahmadeya* organization would have been countered through the status of the brahmanas since a class with larger managerial skill, calendrical wisdom and the technological knowledge of advanced agriculture. There is a concentration of *Brahmadeyas* in the fertile nadus and kurrams of the fertile wet lands of the contemporary districts of Tirunelveli and Ramanathapuram in the nadus strung on the banks of the Tamraparni and Kuda *nadu*.

The sharing pattern illustrates a proliferation in the areas of a relatively uniform rainfall, drainage, soil building alluvial or mixed soil of high fertility- red soil, temperature and vegetation, such since the Ghatana branch of Tamraparni, the Vaippar and Arjuna *nadi* with their tributaries, the tributaries of the Gundar, the two branches of the Virisuli and in Venadu on the banks of Periyar. The expansion of little agrarian localities—*Ur* or *kuti*—and superior ones—*nadu* or *kurram* elements with clusters of such resolution was helped through the *Brahmadeya* organization. Named after first village or after the source of irrigation, it was the capability of irrigation source that determined the range of expansion in each resolution and each *nadu*. The Valanadu was a royal making unlike the *nadu*. Altogether 40 *nadus*, 11 *valanadus*, 6 *kurrams*, 3 *kulakkil* and one *muttam* have been situated in ecological zones of paddy farming.

Land Rights

The *Brahmadeya*, *Deavadana* and *Palliccandam* symbolize the superimposition of larger rights in land and institutional ownership with a corporate body of landholders. Since organizers of agriculture and not cultivators themselves, they got the land cultivated either through original agrarian societies or through settling new kudi or occupants. Alienation of land through gift of a share or shares or through purchase was possible, while leasing of land to tenants introduced further intermediary strata flanked by the owner and cultivator. Transfer of larger rights in excess of land in a *Brahmadeya* was made through method of *pratigraha*—gift of the share, *stridhana* or dowry, etc. It did not mean absolute ownership but the tendency was towards creation the share and thereby the land inheritable. In the some individual transactions recognized, there is no reference to the transfer of *miyatci*. In the case of the *Brahmadeya* all transactions of *panku* were exclusively in the middle of the qualified brahmanas. The hierarchy/stratification is indicated through the following rights. The king since theoretical sovereign of all land created the *miyatci* to the donees who either enjoyed the *karanmai* or gave them absent to others i.e., tenants who got the land cultivated through the *Kuti*. *Karanmai* could be alienated through redistribution of land. The *Kil pati karanmai*—the lower half of the *karanmai* and *melpati-miyatci* may refer to smaller and better share of tenants. The original *karanmai utaiyar* were sometimes deprived of their rights by transfer of such rights. Service tenure was referred to since *Virutti* for the *pani makkal* in the service of the temple. Craftsmen like the carpenter; potter and weaver also received land for their service and were in the middle of the *Kutis*. The *Sabha* and other corporate bodies like *Ur* could sell, gift or purchase land. All these made the delineation of the land and boundaries necessary. Therefore the *miyatci* holders leased land to *Karalar* who undertook to employ the tillers and a relation based on agricultural manufacture and the distribution of the produce got recognized.

By the redistribution of land endowments, the temple gave rise to several intermediaries flanked by the organisers of agriculture and the actual tillers, i.e., structured social dealings based on land rights *Miyatci*, *karanmai* and *Kutimai*. Conditions and suffixes like *Araiyar*, *kilar* or *kilavar*, *sabhaiyar* and *Urar* indicate the biggest landholding clusters. There were Brahmanas also in the middle of the *araiyar*, *kilar* and *Urar*.. The land holding brahmanas appeared since the mainly significant in the middle of the domination clusters and in the nexus of social dealings both individually and collectively since custodians of *Devadanas*. Since for the artisans, craftsmen and tillers, it was hardly caste but their rights in excess of land which determined their social status and domination.

The several artisans and craftsmen besides other functionaries like washermen, *kollar* were allocated subordinate land- rights, most *Kutimai* through the *Sabha* therefore since to ensure their services to the temple since well since the resolution of the *Brahmadeya* and *Devadana* villages. Few of the more significant crafts clusters like the weaver, carpenter and mason and even the potter were also such *kudi* or occupants of land. The *Vettikuti* look to symbolize not those who give free labour, but a rustic people in charge of supply of ghee, etc. to the temple and look to have shared *karnamai* rights. The tillers were attached to the land since a servile cluster. They were also sometimes transferred beside with land. *Virakituvan* and *irankolli* are few of the menial services referred to in inscriptions.

Therefore land rights were structured since follows: *Konmai*, *Miyatci* of *Nattanmai*, *Uranmai*, *Brahmadeya-kilamai*, the *Karanmai* of tenants and the *Kutimai* of service clusters and tillers. The agrarian organization, which evolved in the *Brahmadeya-Devadana* villages, was adopted slowly through the non-*Brahmadeya* villages. This was consequent on the several transactional dealings the non-*Brahmadeya* villages maintained with the temple i.e. extension of *Brahmadeya* mode of land dealings into a non-*Brahmadeya* village. The structuring of land rights was also same. Communal ownership sustained and their dissolution was an ongoing procedure. The rising significance of land rights and their hereditary nature gave method to the crystallization of several social clusters into endogamous caste clusters. Caste became tied up with hereditary functions, the cult of *Bhakti* and temple promoting a ritual hierarchy. The royal craftsmen had a bigger location since holders of land since royal tenure? Often their lineage was legitimized with *Puranic* links. Ideology therefore played a significant role in the socio-economic organisation of the agrarian community.

Frontier specifications became essential since also classification and measurement of land due to reclamation of forest and waste land and the emergence of smaller holdings against communal manage. Renewal of old charters was necessitated through lack of specification essential for settling troubles of enjoyment, inheritance, etc. e.g. *Karnamai* rights became inheritable just as to patriarchal organization, the laying of frontier becoming a ritual—a female elephant going approximately the land granted with libation of water, witnessed through the landholders of the locality. The shareholders right in excess of his share was perpetual and he could sell, mortgage or gift it since he pleased. Fragmentation of land was an ongoing procedure. Livestock was another resource of the temple. Cows and goats, which were gifted were entrusted to the *Vettikutis*. Sometimes a *pataittalaivan* was given charge of such endowments.

Gold was another potential resource of the temple. Gold deposited with the temple was also redistributed. The gold in the shape of *Kalanju* and *Kasu* was given in swap for land. Other shapes of money like the *Palam kasu*, *Krishna kasu*, *Ilakkasu* and *dinara* were given since gifts to be

reinvested or redistributed. Gold endowments were redistributed mostly in the middle of the *sabhaiyar*. The interest received through the temple was mostly in conditions of paddy and ghee. Interest rates varied, the average rate per *kasu* being two *kalam* of paddy per year. Events also varied. The role of money was marginal. Money was used only in land transactions and payments of royal dues. *Pon*, *tulaippon* are recognized in Pallava records. The *Kava tiyar* looks to be an functionary to stay the explanations of the temple? Other commodities were exchanged mutually in given weights and/or events. Weights and events depended on the type of article exchanged or used. *Kalam* and *Nali* were the mainly widely used grain events. Land considered through rod *ma* were also elements of land based on the sowing capability of land. Usually two harvests depending on seasonal rainfall were made. The types of land incorporated *puravu*, *nancei* and *punnei* and *manai* and *illa vilakam*. Agrarian tracts were called since tati, *Nir nilam*, *kalani* and *vayal*, while *tottam* meant garden land. Waste land was referred to since *Mutu nilam* or *pal-nilam*. *Parutti nilam* referred to land for cotton farming.

The circulation of agricultural possessions was intricate i.e., from the tillers to *Karalar*, biggest share to holders of *Kani* rights who in turn shared it with the temple and the *sabha* or the *Ur*. *Katamai* was the tax due from the intermediaries to the state or organizations to which the land was granted. The term *irai*=tax was a non-specific term. The lumpsum—since *Irai-kaval* or *irai dravyam*—beside with the price of land was carried from the purchaser through the *sabha* or *Ur*. Often it incorporated all types of dues, even *Vetti* and *Vetina*—free labour and burden? The pattern of the distribution of the chief resource which determined the building of social dealings had its bearing on the sharing of other possessions also. A lion's share of the pulses spices and condiments also reached the land holders presently since paddy and were redistributed to the functionaries and others attached to the temple. *Virutti* referred to the land tenure by redistribution of the *Deavadana* in the middle of several people attached to the temple- carpenter, *kanakkappantaram*, *uvaccar*, the temple manager, potter, and menial servants. The temple since consumer of luxury items and aromatics, etc. also attracted trading clusters, both from within the area and from outside, therefore encouraging movement of traders and inter-local swap since well since extensive aloofness deal from the 10th century onwards.

The common economic pattern of the era symbolizes a combination of primitive agriculture of the elevated spaces and hill slopes, animal husbandry of the pastures and advanced cultivation of the irrigated plains and crafts/industries of agrarian settlements. While advanced paddy farming was the dominant mode of manufacture with a intricate division of labour and structured social dealings, tied by non- economic bonds of a temple community, arts, crafts and labour were mostly obligatory and their payments was mainly in type. Deal was confined to non- regional goods of daily

consumption with a rising capability to bring in greater variety in market organisation and extensive aloofness deal from in relation to the 10th century AD

Irrigation—6th to 10th Centuries AD

Both perennial and inundation techniques were followed in the Pallava and Pandya areas. Canals were dug from rivers and streams. Biggest irrigation works were accepted out through kings and chiefs area. The regional chieftains who enriched their localities with such projects were granted higher political status. Both the Pallava and Pandya areas are often described tank districts since they depended approximately entirely on such reservoirs and monsoon rains feeding them. River fed are also recognized.

Structure and renovation of bunds and sluices and *kal* would point to irrigation since the biggest concern of the agrarian areas and *Brahmadeyas* of these areas. A network of *vaykkals* leading from the village tanks irrigated the lands. The Nattuppermkal- large channel of the nadu refers to the canals which supplied water to the entire *nadu* and was evidently under the *nattar* manages. Wells were also attached to meadows for supplementing irrigation from tanks. The manual works of irrigation in the meadows were done through a servile cluster.

On the upkeep and maintenance of tanks more details are establish in the Pallava inscriptions and the actual remnants of several of these tanks in both areas and their renovation throughout British colonial rule are recorded in the district gazetteers and manuals. No special committees like the *Kalinku variyam* or *eri variyam* of the Pallava inscriptions are recognized in the Pandya area. Attention to de-silting and maintenance also incorporated provision for boats to be used while de-silting the whole lake or reservoir from its centre to the margin. Such provisions are also recorded in the late Pallava inscriptions. Motivating proof has been establish to illustrate that flanked by Tamil area and Sri Lanka there was irrigation technology transfer, and the Sri Lankan irrigation organization showing considerable advance even from the early centuries of the Christian period.

The Sluice Organization

A number of granite sluices with inscriptions in the Pandya area were mostly left unnoticed and hence not recorded attan. The Tumpu was single valve organization without any devices for mechanical advantage. The sluices consisted of two granite pillars installed in the tank on either face of the sluice mouth. Pillar heights varied since required through the depth of the tanks. The pillars are linked through crossslabs by the centre of which a rod was inserted from above up to the sluice-mouth. The edge of the rod was flat covering the entire of the sluice mouth and could act since

shutter of the sluice mouth. One could swim crossways to the pillars and rest on the cross-slabs to operate the shutter through lifting the rod.

In the *Kumili* organization, the edge of the shutter rod which was more or less global closed the opening in to a stone pit. The nature of the valve was dissimilar, since, here, the water flows from above and in the former from the face. The water is led to a well described *etirakkinaru* built up outside the tank. Unlike ordinary wells its construction was upwards from the ground stage. It has openings at the foundation stage to dissimilar channels running to several directions. The flow worked on gravitational force. The wells had *piccotah* systems. Biggest irrigation projects were accepted out in the 7th- 8th centuries AD.—Ramanathapuram inscription. Irrigation was under the communal administration of corporate bodies like the *nadu*, *sabha* and *ur* and also under the manage of regional chiefs.

The Agrarian Order and Revenue Organisation—9th-13th Centuries AD

The pattern of agrarian order further got restructured in the 9-13th centuries with more direct state interventions in the areas.

Tamil Nadu: The Cholas

Under the Cholas, the agrarian order came to be further restructured due to the state directly entering the localities and areas for a land survey and assessment jointly with new and superior revenue elements shaped out of the existing peasant areas and *Brahmadeyas*. The *nadu* sustained to organize and manage agricultural manufacture and redistribution in non- *Brahmadeya* villages. Though, the making of the *Valanadu* and the enhancement of the location of the biggest *Brahmadeyas* into distinct revenue elements with manage in excess of many non- *Brahmadeya* villages with temples, approximately the *Brahmadeya*, meant greater intrusion of royal power by such organizations into the areas for the mobilization of agrarian possessions. With the proliferation of the *anagram* since the market centre for each *nadu*, corporate merchant organisations also played an significant role in the regional manufacture and redistribution procedures.

It would seem that communal ownership in *Ur* sustained although through the end of the Chola era land rights became more intricate and stratification of land rights became regular in the non-*Brahmadeya* villages too onwards the secure of the era individual landownership became prevalent in these villages also. In *Brahmadeya* villages landholders and cultivators shaped two separate classes whereas in non- *Brahmadeya* villages, the landholders were themselves cultivators.

Individual ownership or shares sustained in *Brahmadeya* villages with a majority of Brahmanas being the owners. Secular grants to royal functionaries also increased and villages placed under such functionaries to whom the revenues were assigned since *jivitam*. Sale and gift of land to the temple through *kani*- holders and through *Ur* became more frequent. There are records of sale of shares to the Jambukesvaram temple through 16 *kani* holders and in Rajarajakkurrangudi purchase through 39 persons from two brothers—*kani* holders—gifted to the Jambukesvara temple and sale to the Jambukesvaram temple through an individual, who purchased land from the four *kilavar* and their brothers. Land transfers were accepted out through individuals either since pieces of land or whole villages. Such transfers occurred occasionally through the *Ur* since a entire since a communal landholding. In the later era of Chola rule land transfers through individuals became prevalent in the non- *Brahmadeya* villages also. Interestingly, such transfers meant the rights to produce and revenue and the seller or grantor remained the *karanmai* holder i.e., farming rights and also *kutimai*. What was being transferred was the biggest share of the produce and/or *kadamai* payable to the king. In few cases the dues from land were paid through the cultivators to the donee and the tax to the state. Several land transfers flanked by individuals and temples began to happen. It is suggested through Noboru Karashima that such transfers led to *kani* holders becoming tenants and losing power. It is also interpreted through James Heitzman to mean that in Chola era only revenues assigned and not transfer of ownership with no economic loss to donor. In information the donor's status since the cultivator—proprietor—was confirmed. *Katamai* had through now become a tax universally applicable to the entire of the Chola area i.e., the Tamil area, with the Cholas organising a distinct department of revenue management described the *Puravu Vari Tinaikkalam* and royal functionaries like the *Nadu vagai seigira adhikari* for reorganising the nadu and valanadu revenue elements.

Kani rights now meant rights inherited in excess of lands, the right of possession, which was being transferred through the seller or donor. *Kani* in other languages became hereditary rights in excess of any asset and when applied to land it may mean right of possession. The *kani* right holder enjoyed a privileged life in the village based on possession of land. The *kani* right in this wider meaning could have been exercised only when the unity of the society was unchallenged. Otherwise it might have meant merely the right to possession of sure plots of land in the village. The emergence of a number of large landholders through the late Chola era is indicated through titles such since *udaiyan*, *kilavan*, *alvan*, or *araiyan*. Economic growth in the lower Kaveri valley throughout the transitional Chola era, resulted most from the sharing of wealth acquired by wars and the augment of productivity of land through growth of an irrigation organization and the augment of land grants to officials in the transitional Chola era. This is indicated through the appearance of military holdings—*irasakulavar*, *padaipparru*. Leasing out of land benefited more of non-brahmana and other boundary

people. New land owners and big holdings characterized the new agrarian order in the lower Kaveri valley.

Under the Cholas the irrigation organization of the Kaveri valley, which depended mostly on the mud embankments and breaching for canals supplying the *nadus* by a network of canals and channels criss-crossing the *nadus*, was promoted through the *nadu*, chiefs and the ruling families, presently since much since the new *nadus* with big tanks/ reservoirs that were created through royalty and organised and maintained through the regional assemblies like the Sabha and *Ur* in the northern sections of Tamil Nadu. The mud embankment and canal organization was also introduced into newly conquered regions since in the Tamraparni-Ghatana valleys, where the existing *nadus* were expanded and new *Brahmadeyas* created. The Land Survey and Assessment of the eras of Rajaraja I and Kulottunga I with the *nadu vagai seigira adhikari valanadus* were biggest initiatives for the augment in agricultural manufacture since well since revenue organisation—a project which sheltered the entire of the Tamil area through the end of the 11th century AD. In information the new agrarian order and integration which began under the Pallavas and Pandyas were finally led to their optimal growth through the 11th century jointly with the proliferation of regional and local markets, which through the end of the 11th century led to the emergence of trading networks and commercial behaviors including specialization of crafts and markets and extensive aloofness deal.

Kerala

Traditionally the number of Brahmana settlements in Kerala is whispered to be 32. Curiously, no single *Brahmadeya* has a royal charter and hence it would look that they were founded through migratory Brahmanas. They spread, establishing fresh settlements, through fusing jointly units of recognized ones and through amalgamating two or more settlements to shape a better one. Flanked by the rivers Parumpula and Karumanpula are situated 9 such settlements; flanked by Karumanpula and Curni—13; and flanked by Curni and Kanya Kumari—10. Perumcellur, Isanamangalam, Mulikkalam, and Tiruvalla are few significant ones. They are establishing in groups in the Pampa valley, Periyar valley in their more fertile zones. Due to rapid augment in agricultural manufacture and extension, subsidiary settlements or upagramas came to be attached to the largest Brahmana resolution *hmadeya* hardly occurs with reference to these Brahmana settlements, which are invariably associated with temples.

The term *Urar* and others like the *tali*, *tali-adhikarikal*, *taliyar*, *sabhai*, *sabhaiyar*, etc. refer to the Brahmanas who controlled the temple and the resolution. The *Urar* of Tiruvaruvay, *Netumparam tali* and *Pudukkode* are also referred to since *Patinettu nattar*, *painarumar* and *erupatteluvur*, etc. evidently the number of people. The Paratai, Mulaparatai, the council

administering the temple; Potuval, ahappotuval, variyar and purappotuval, etc. refer to the service personnel of the temple. The variyam or committee of the kind that occurs in the Tamil area is away in Kerala. The emergence of the temple since the new ideological instrument through in relation to the 8th century AD, spots the genesis of an agrarian community headed through the Brahmanas and centered approximately the temple Endowments of huge landed estates to the temple are on record. Grants to the sala attached to the temple are also recognized, which were supervised through the temple corporations. A big section of the fertile lands flanked by Karumanpula and Curniyar was under managed of the temple corporations of 11 temples including Paravur, Irnjalakkuda, etc. Mainly of the fertile agrarian tracts of modern Kerala belonged to the brahmanas since proprietors of the temple.

The localisation of agrarian behaviors under the institutional supervision of the temple resulted in the establishment of an elaborate agrarian order and an unprecedented expansion of agriculture. The temple could organize the community for several behaviors of bigger manufacture by irrigation projects and big-level land improvement schemes. Little-level reclamation and cultivating procedures were accepted out through the *Karalar* since section of their tenancy obligations. Fertile uplands were brought under farming. Conditions like *Cerikkal* refer to crown lands, *Devasvam* or *Kilitu* were lands to temples, which enjoyed the karanmai rights and 18 dissimilar taxes due from the village were also assigned to temples since in the case of the village of Katuvur assigned to the Tiruvalla temple. The temple corporation received *Rakshabhoga* in the shape of paddy temple were recognized since *Attaikkol*. The defense temples was entrusted to the 300, 500, 700 etc. who were given land since *nilal*, *kaval* since *kilittukkanam*—meaning subordinate rights in land. Lands given since *Attipperu*, *panayam*, etc. gave the temple dissimilar stages of rights like those of the owner of all revenues, protector, and temporary revenue ownership with *karanmai* rights. An elaborate organization of sharing and redistribution urbanized. For the organisation of economic behaviors, lands were entrusted to several *ganas* of the temple. The temple lands were redistributed to *Karalar* and then to *kutikal*. The temples leased out lands to *karalar* who were made responsible for providing the necessities of the special temple rituals for which the endowments were made. *Karalar* had the rights to cultivate, and the *kutis*, such since tillers, artisans and craftsmen, the job rights. For several services to the temple—service tenures—*virutti* and *jivitam* were given. *Virutti* was an allotment with hereditary rights and *jivitam* was for life. The *Uranmai* was retained through the temple corporation therefore creating larger and subordinate rights. The hierarchy in the descending order represented *Uranmai*, *karanmai* and *kutimai*. A three tier building of rights evolved i.e., *Koyinmai*, *Uranmai* and *Karanmai* and the fourth i.e., *kutimai* often had no permanent rights in excess of land.

Gold was another resource deposited with the temple and was often exchanged for land, loaned on mortgage, etc. The gold lending economic action of the temple brought interest in paddy. Though there was no monetisation, despite the information that references to *kalanju*, *kasu* tsmen or professional castes settled in temple-centered villages, economically dependent, based on ties from the lowly to the higher clusters i.e., the temple and village proprietors. This has been understood since on behalf of a relatively self-enough regional element and the prevalence of service tenure, an recognized intercommunity swap ratio and insufficiency of coinage are whispered to be the characteristics of a closed economy.

Karnataka: The Chalukyas of Badami and the Rashtrakutas

In Karnataka under the Chalukyas of Badami and the Rashtrakutas of Malkhed, the land grant organization introduced a same organistaion of agricultural villages with the Brahmanas since the biggest landowning cluster, controlling the farming procedure in the *Agraharas* or *Bramapuris* and also in the pre-existing settlements which were brought under the overarching power of the *Agrahara* or *Brahmapuri*. Here the attendance of the non-Brahmana land controlling clusters is indicated through the term *Okkalu* referring to the agriculturists who like the Velalas of Tamil area were both land controllers and tenant cultivators, under the reorganised agrarian order. They functioned beside with the Brahmanas in mainly centres. In the lay of the *Sabha* or organisation of Brahmana assembly, the term *Mahajanas* designates the large men and their assembly in both the *Agrahara* and non-*Agrahara* villages. Yet for this area there is require for rigorous research since has been done for the Tamil area on the manufacture procedures and the nature of stratification of land rights. It is though possible to infer that the *Agrahara* and the temple under the leading landowning Brahmanas and *Okkalu* had same organizational manage in excess of manufacture, mobilization and redistribution of possessions, both agricutural and non-agricutural possessions.

In Karnataka under the Western Chalukyas of Kalyani the grants to Brahmanas were often described *Agrahara*, *Mahagrahara*,, where the Brahmanas existed. The *Agraharas* had many Keris e.g., *Kukkanur Agrahara* had 48 *keris* or colonies, pointing to the distinct livelihood quarters of the inhabitants. The grantees evidently had no right to alienate land or livelihood streets. The village generally had an inhabitable region, temple, shops and commercial establishments, craft centres, charitable homes, warehouses, godowns and sheds, vacant locations, tanks or ponds, wet lands, gardens and forests, hay-stack and a fortification in few cases. Quarters of barbers, washermen were separated and situated in the outskirts. Craft clusters and trading societies engaged a single line in which their spaces of business and residence were located jointly.

The records mentioning the King's consent in giving absent land or a entire village since grant to brahmanas, in the attendance of Mahajanas, Brahmanas or neighbors since the corporate bodies theoretically acknowledge the king's right of absolute ownership. Exemptions and conferment of privileges or rights to the donees are also same to the grants made during the early medieval era. Reference is also made to the State revenue registers for land transfers, purchase, sale and taxes.

The Mahajanas mannered the survey and measurement of land and were entrusted with the administration of traditions and tolls donated to temples, getting deposits of gift money and utilizing the interests earned for purposes specified through investors. They were also in charge of tanks—construction, repair and maintenance. They were usually trustees, witnesses to gifts, to exemptions from payment of taxes and tolls and gave permission for levy of taxes and settled disputes, etc. Other regional elite were the king's functionaries and the village elite like the brahmanas, Gaudas and *jiyas*. Separately from the Mahajanas, who were the mainly significant regional large men in charge of temple grants, the sthanikas, who look to be royal functionaries, were also entrusted with the proper functioning of the temple's management.

Land Tenure

Land was assigned for special services such since construction of tanks, clearing of forests and formation of new lands or repairs to temples for acts of bravery shown in rescuing cattle or women; frontier disputes, etc. *Deavadana* or *datti*—for worship in the temple; *Umbali*, tenure, was meant for several public offices, either since revenue assignments or enjoyment of yields with claims to ownership. Many to Brahmanas and other religious or secular purposes was made entirely free from taxes or partially free. Service tenure also incorporated, separately from temple service, also others like military service, *Bilu vritti*—gift to the defeated king; *Kumara vritti*—to a minor prince. *Prati vritti*—a share of land obtained in swap? *Dingariga vritti* a unique tenure translated since servant's income or living? Like *nattrau kodige*?; *Anuga jivita vritti*—gift based on love affection or *olume* made to members of the royal family.

It has been suggested that there were three kinds of ownership—1. Complete ownership in general, 2. Society manage was complete and the individual entitled only to a share. Society retained the right of periodical redistribution, under which land was allotted through dividing the lands into blocks or *tattus*, with general tenure or manage being retained only in therefore distant since the periodical redistribution was concerned. The rest was held individually just as too few agreement made forever. The rights implied in general ownership extended to alienation, pre-exemption and denial of admission to strangers. In the third category, each household had its allotted share without any general manage or regulation. This is said to be an ideal instance of corporate life, in which the

largest substance was to ensure that the shareholders should construct tanks and channels through themselves in their respective villages and live in peace. There were identifiable frontier spots to prevent mistake or frauds. Separation, alteration and swap of shares were prohibited. Even in *Agraharas* proof of general ownership has been recognized.. General ownership meant that the rights of alienation, transfer of farming, sale, mortgage, gift, and remission of taxes were held in general and separately from maintenance and repair and joint sale was meant for the prevention of sale to strangers. The era of tenure is defined since *sarvabhyantarasiddhi*, *achandrarkataram* or *ekabhoga* not rights of one person, *trachoma* and for 21 generations.

Temple lands were leased out to tenants classified into *uttama*, *madhyama* and *kanishta*, implying a classification in the middle of the kinds of land and the tenants undertaking farming themselves. The lease amount was fixed in sure cases including garden products. *Siddhaya* or minor cesses had to be paid. Though, references to tenants freed from forced labour—*bitti solla* and home taxes would point to the prevalence of forced labour. Mainly of them were tied down to their respective blocks and the tenants had to cooperate in structure tanks, temple etc. A share of produce was payable to the land owner separately from the government's share.

There was no uniformity in the mass of landholdings and hence it is hard to revise the nature of holdings. Little holdings were general, since for instance one *mattar* or 2 *mattars* of wet or arid land, while 16 *mattar* is a unusual holding. Fragmentation evidently became more general in the latter section of the early medieval era. Irrigation was a biggest concern in all areas and in Karnataka the irrigation projects were under the communal care of the regional large men and references to *kere*, *samudra*, *eri*, *katte*, *kola*, *kuttai*, *kumte*, *sarovara*, *tirtha*, *tataka*, and point to the kinds of reservoirs constructed. The sluice organization was general since conditions like *Tubu*—sluice, *kodi*—weir, *agali*—iron rod or *nirottu* for controlling water supply, *hatta* or *kaluve* into which water was led from the tank **by** *kodi*, would illustrate.

Andhra Area: The Eastern Chalukyas

Agrarian expansion in Andhra began early in the 4th-6th centuries AD. In the initial stage, a greater section of land in coastal Andhra, particularly the deltaic area, was brought under farming due to high soil fertility and adequate rainfall. Hence the thick resolution pattern by out coastal Andhra. The early grants of *Agraharas* in the Andhra area numbering in relation to the 27 and belonging to the 4th-6th centuries are concentrated in the Krishna, Guntur and Godavari districts. It is of interest that the names of the tributaries of the Godavari, the main perennial river, are derived from those of the Vedic—brahmana or rishis or sages or gotra lineages such since Gautama, Vasishta, Vaisvamitra, Vanadevi, Bharadvaja, Atreyi and Jamadagni. Exempted from all taxes, the grants were

given immunities with revenue and administrative rights since also a strong restriction against official interference. The *Visaya* and *rashtra* are areas in which the grant village is generally situated. Although in the later bilingual Pallava copper plates the Sanskrit portion has *Visaya* or *rastra* in the lay of the Tamil area described *nadu*, the Andhra area does not look to have had such well entrenched peasant areas, which organised manufacture. The inhabitants of the gift village were to obey the grantees.

From the 7th to 13th centuries AD the Eastern Chalukya grants numbering 53, of which 34 have been recognized and Prakasm districts, one in Srikakulam and one in Visakhapatnam spot a further expansion and reorganization of the agrarian order. Early Eastern Chalukyas like Kubja Visnuvardhana encouraged Brahmanas to settle in the boundary regions e.g. flanked by Kalinga and Andhra since buffer villages the relative absence of settlements in Rayalasima and Telengana, despite frequent westward shifts in the political boundaries of the dynasties like the Eastern Chalukyas may be attributed to their geographic and climatic variations. Both Telengana and Rayalasima are on the plateau. These are two biggest physiographic zones—The Ghats and Pane plains —marked through a series of eroded surfaces of rocky area, with a standard of 85 cm rainfall, the rainfall decreasing from northeast to southwest, Rayalasima, being a rain shadow region. The soils are red, black, laterite, and alluvial with black cotton soils mostly in Telengana and few in Rayalasima and the alluvial only in a little portion of the plateau. The forests region and arid deciduous forests in regions of low rainfall with limited forest region in coastal region were slowly brought into the new agrarian organization, either through deforestation or more often through foresters being brought into temple community since economic clusters supplying several items of consumption through royalty and the temple and also other plains people.

In Andhra the association of *Agrahara* and *Brahmadeya* with temple is initially not well recognized since in other sections of south India i.e., till the 10th century AD. They are not temple-centered since in Kerala or Tamil area. Though, they had Ghatika since centres of education. A minister is alleged to be challenging unpaid labour at the time of sowing, collection of dues while the corn ear is still unripe and that there was unbridled movement of troops at the harvesting season. This would almost certainly indicate the prevalence of forced labour and the intrusion of troops, from which exemptions are given to the Brahman settlements. There is evidence of the transfer of share croppers and labourers beside with land, a practice which sustained in the later eras also.

Within Andhra, local variables are critical. Interior Telengana and Rayalasima sustained with their rustic life styles for an extensive time. Periods of copious epigraphic documentation correspond to momentous changes in the political economy of South India. The colonization of interior Andhra was similarly a extensive term procedure. Expanding agrarian boundary and the demand for military

labour in later eras resulted in physical mobility. Considerable labour possessions came in with migrants, who, in return, were granted privileges like village headmen e.g., the Reddish in the 13th and 14th centuries. Two significant characteristics of Telengana and Rayalasema were tank irrigation and temples, which were not functionally equivalent or homologous. Under the Kakatiyas, political and military connections provided the circuit to wealth and domination, which were achieved by a web of economic interests. Land provided entry into a privileged nexus of surplus extraction. Land under Racadinamau, *raja-palu* defined royal prerogative in creation *Agrahara gifts*, *raca sunkamu*, etc. *Vritti* grants were made to religious organizations and specialists and *jivitamu* to warriors. Differing rights lived flanked by nobles and administrators, although land was alienable. Expansion of agriculture by reclamation of forest land and waste land since well since Population pressure occurred more frequently after the 10th century AD. Grants in Telengana prior to 11th century were fewer than under the Kakatiyas. Through 13th century, separately from royalty, the *astadasapraja* or 18 societies to the agricultural and allied societies were also creation grants. New villages with temples and tanks appeared. The *Sarvabhyantarasiddhi* incorporated several rights and privileges, the mainly significant being rights in excess of irrigation works like tanks. Under Sarvamanya, the donee or donees were entitled to the enjoyment of income from all taxes and other rights since fines and fees of several types—*nidhi*, *nidana*, *sulka*, *danda*, *dhana*, *upabhogya* and since *tribhogyabhyantara siddhi*. They also had manage in excess of other crafts manufacture like oil crushing, *karamba*—waste land? The making of villages progressed on a superior level mostly in new regions and land grants to brahmanas and temples, approximately which new settlements look to have approach into subsistence. In the *Agraharas* shares of land assigned to brahmanas and the donees were not to leave the lay nor sell. More villages from forest lands were brought under the new order throughout the times of Prataparudra II- 1290-1323. The new settlements were given special incentives, like remission of taxes. The Brahmanas of one Agrahara could hold lands in other villages.. For temple service, land since *Vritti*—*deva brahmana vritti*—or service tenure, was allotted since in other Brahmana and temple centres.

In Telengana tank irrigation was the biggest source. Tank construction was one of the *saptasantanas*. The rich invested their surplus in temples and tanks. Tanks often became private property. The entire of Telengana was sheltered with intended irrigation facilities—e.g., Chaunda Samudra and The Pakhal lake. Royalty, feudatories and other rich families of merchants constructed tanks Tanks were *nadimatrikas* and *Devamatrikas*, the former most in river valleys and latter in monsoon dependent regions. Natural streams described Vagus were also channelised for irrigation. The later *dasabandha manya*—for tank maintenance may well have originated in the Kakatiya era.

Tank owners derived substantial income from the exploit of water through peasants. Dissimilar types of water lifts were taxed.

Canals and streams were under the communal managed of villagers. Except for the canals which flowed by the *Agraharas* and other tax free regions, the rest of the canals fetched income to the state. The nayakas, who were royal officials with estates to govern look to have benefited through manage in excess of such projects. Differential rates of payments from dissimilar parts of the society would illustrate the inequality of the organization. Water cess was composed mostly since rent through the intermediaries. Double cropping or sometimes three crops are recorded in the inscriptions. Kinds of land such since Marturu—wet land; *mutlu*—arid land; land events like *nivartanas* for wet land and *khandis* for arid land are referred to. Putti were a measure both for land and grain. *Nivartana* was an age old measure of land in the Deccan and Andhra areas, which sustained to be in vogue till the late medieval times. One *nivartana* was flanked by 2 ½ and 4 ½ acres. Beddachenu- stony land; *recadi*—black soil; *tomtabhumi*—garden; *nir nela*—wet land; *veli bhumi*—arid lands are few of the soil and land kinds recognized from the inscriptions.

Paddy was not only a biggest consumer crop but also a medium of swap and deal article. Diversities of rice, Jowar and bajra were also cultivated, separately from cotton and sugarcane. Cotton manufacture and deal in cotton became a leading craft and commercially viable product through the 12th-13th centuries AD practically all in excess of South India. Oil seeds were also cultivated and the *Teliki vevuru*, a society of oil mongers were in the middle of the organised craft clusters of this era.

A intricate organization of tax appropriation appeared. The conditions used are often confusing, but it is clear that taxes on agriculture were numerous. Harvesting; *Vennupennu*; *Pullari*—grazing tax. Sulkam, Koluchu and ammadikalupannu, paid in grain. The *panchamakula* or agricultural labourers would look to have been the actual payers of all taxes and dues. The organization of taxation was not uniform and varied just as to caste pointing to the servile condition of actual cultivators. The many societies of cultivators or those occupied in agricultural operations including crafts for agriculture mentioned in the inscriptions and literary works like the *Kridabhiramamu*, *Sakalaniti Sammatamu*—on *dharma*, and *Velugoti varivamsavali*, etc. were headed through the Reddis, Gavundas and *Karanams* who kept the records of the village lands in the Andhra area. The merchants appeared since an economically self-governing and powerful force through the early 11th century. *Komatīs* and *salevaru* and others made gifts in the shape of money—*cinnas*, *madās*, etc.

Crafts Clusters

In the middle of the crafts clusters were metal workers; *bangaramu*, *vendi*, *raci*, *tagaramu*; the *Salivaru*—weavers; *vaddavaru*—stone cutters; *kase*—masons; *vadrunki*—carpenter; and *kammailu kummarilu*, *musara varu* and *teliki varu* are prominently mentioned. Through 12th century AD mainly crafts clusters were socially and economically stabilised in Telengana. Not all artisan classes were present in every village. Their grants were in the shape of a share of the income from the sale of their items of production. Mainly of these crafts were in the shape of manufacturing agricultural implements and water devices, carts and boats, etc. They were all remunerated for their services in the shape of land which they generally cultivated themselves.

TRADE, TRADING NETWORKS AND URBANISATION: NORTH INDIA, C. AD 300—C. AD 1300

Sources

That the era under survey was marked with several shifts from the previous era is also indicated through new kinds of source materials and documents which themselves were witnesses to changing condition. The mainly significant source material for the revise of this era is the vast number of inscriptions. Inscriptions had already emerged since early since the third century BC. But mainly inscriptions after fourth century belonged to the category of copper plates. These copper plates recorded transfer of revenue free landed property through royal orders to recipients of the grant. However this practice almost certainly emerged first in the Deccan approximately second century AD, the practice of issuing land grants became fully recognized from the fourth century onwards and assumed an all-India proportion after AD 600. Mainly of the copper plates record the making of revenue-free grant of land gifted to a brahmana, a cluster of brahmanas or a religious organization. Such grant of land to religious donees is recognized since *agraharas*. Being official records of grants of landed property, the copper plates are invaluable for understanding of rural economy, especially for understanding the procedure of transfer of landed property, rural resolution pattern, crops, irrigation projects, peasants and agrarian revenue demands. Though, on few occasions the grant may also throw light on significant merchants and craftsmen whose attendance since significant witnesses to the pious act of donation of land was recorded.

Merchants also figure in copper plate grants in a cluster or since an assembly on sure auspicious days when the merchants decided to voluntarily offer few cesses on the commodities they dealt in favour of a deity or temple. In such grants naturally seem not only merchants but also several kinds of commodities. These inscriptions also inform us in relation to the several kinds of market

spaces from few of which were composed tolls and traditions, thereby indicating the revenue bearing potential of deal. Also recognized are inscriptions recording individual donations through merchants, either in favour of a deity or for few works of public benefactions.

Information on deal and urban centres is accessible from voluminous legal or theoretical treatises. Theoretical treatises through Vishnu, Vasishtha, Brihaspati and Narada will be useful for our purpose. Commentaries on these texts also offer few data on this subject. Relevant data can be gleaned from technological treatises like the well-known lexicon, *Amarakosa* through Amarasimha, the *Abhidhanachintamani* and the *Desinamamala* through Hemachandra and the *Lekhapaddhati*. Few impressions of commercial behaviors are accessible in the huge creative literature, e.g. the works of Kalidasa, the *Mrcchakatikam* of Sudraka, the *Dasakumaracharita* of Dandin and several kinds of Jain texts. It is significant to take note of the information that two well recognized Jaina texts *Jagaducharita* and *Vastupalamahatmyam* were biographies of two premier merchants of early medieval Gujarat. Non-indigenous textual materials are of scrupulous importance since source materials for the history of deal, especially the external deal of India. The Chinese explanations of Fahsien, Hsuan Tsang, Itsing and Chau ju Kua are invaluable sources for the understanding of deal in India. Arabic and Persian texts on geography and traveler, the anonymous author of *Hudud al Alam*, al Biruni, and al Idrisi are replete with information on Indian commodities and India's deal linkages with West Asia; however these explanations are occasionally stereotyped since several of the Arab authors did not visit India. To this may be added the late sixth century AD explanations of the Syrian Christian monk Cosmas Indicopleustes and the well-known descriptions of India through the Venetian traveller Marco Polo. A rare kind of source is the letters of medieval Jewish traders, who frequently traded flanked by the west coast of India and the Red Sea. However the largest point of their contacts was the Karnataka and Malabar coasts, these unique business letters, recording the impressions of the actual participants in extensive-alloofness deal, furnish significant data on deal in the Gujarat coast.

In sharp contrast to the wealth of field archaeological data for the era from 600 BC to AD 300, the subsequent era of one millennium has acquiesced only handful of exhumed and explored materials. Unlike the early historical settlements, the early medieval ones have not been systematically explored and exhumed and so the field archaeological data on deal and urbanisation are quite inadequate. The Gupta rulers are credited with the issuance of superb gold coins and also silver coins. The gold coinage of the Gupta Emperors was imitated through a number of smaller dominations in the seventh century AD. But coins of valuable metal became fewer in the early medieval times than those in the preceding centuries. Minting of excellence coins was limited to a handful number of spaces in north India; it is after AD 1000 that the issuance of valuable coinage

once again revived. Numismatic sources therefore offer lesser data than that furnished through early historical coins. This it has been interpreted through few scholars since a prime indication of dwindling commerce, especially foreign deal of India throughout the 600-1000 era.

Deal, Market Spaces and Urban Centres AD 300-650

India's thriving commerce with the Roman world looks to have declined after c. AD 250; there was possibly a lesser demand for Indian products in the West and the volume of deal looks to have declined. The fall of the Kushana empire approximately c. AD 262 could have also contributed to the lesser volume of external deal of north India throughout the era. These shifts in the deal scenario, though, should not imply any biggest crisis in the commercial transactions within India and in north India.

Merchants

Therefore the well-known lexicographer, Amarasimha explains deal since *kraya-vikraya*. Since before, *vanik*, *sresthi*, and *sarthavaha* continue to be active in this era. Following the strict *Varna* code they could be assigned the status of *vaisyas*. But trading behaviors on few occasions transgressed the strict *Varna* norms. Therefore two merchant brothers, Bhrikutivarma and Achalavarma seem in an inscription of AD 466 since pious donors to a Sun temple at Indrapura; they were of Kshatriya origin and hence called since *kshatriya-vanik*. Such violation of strict *Varna* code neither brought them any disrepute, nor was their donation unacceptable to the shrine. Three such *vaniks*, Saktinaga, Kumaranaga and Skandanaga, patronized another sun temple in the present eastern section of Madhya Pradesh. They seem in the early sixth century not in the Ganga valley but in the ancient territory of Dahala which was situated in a forest tract. In two inscriptions of early sixth century from the similar region figure a merchant and a craftsman. These instances speak of the active attendance of merchants not merely in the Ganga Valley but also in the relatively in accessible area of Central India. Following the profession of a merchant was therefore general that the hero of the well-known drama *Mrichchhakatikam*, *Charudatta*, was a trader however born in a brahmana family *havaha*. The drama in information defines that Charudatta's father and grandfather too were merchants. However they were of brahmana origin they resided in the quarter of the municipality assigned to the merchants *Sarthavahas* and *sresthis* figure uniformly in five Gupta copper plates from Damodarpur, which was incorporated in the Pundravardhana *bhukti* of the Gupta Empire. These copper plates are dated from c. AD 443-44 to AD 543-44. The actual term referred to in these

inscriptions is *nagarasresthi*. *Nagara* stands for a municipality and *sresthi* the chief merchant; the term so is taken to mean the chief merchant of the municipality, perhaps of the municipality of Kotivarsha trict, West Bengal from where the records were issued. The term *nagarasresthi* has also been explained since the chief banker or money merchant, since the *sresthi* was often a extremely rich merchant investing cash in dissimilar business. Beside with the *nagarasresthi* seems the *sarthavaha* or the leader of the caravan merchants in the copper plates of the Gupta era from north Bengal. The significant point to note is that the *nagarasresthi* and the *sarthavaha* were members of the district stage administrative board, assisting the district administrator. The district administrator was a separate administrator, appointed through the provincial governor of Pundravardhanabhukti, who in his turn was appointed through the reigning Gupta emperor himself. The *nagarasresthi* and the *sarthavaha*, on the other hand, were not salaried administrators of the Gupta provincial government in north Bengal. They seem to have been inducted to the district board since representatives of their respective professional organisations. This would logically imply that in north Bengal there were not only significant merchants but mercantile institutions or bodies too. Leaders of such merchants' bodies were significant sufficient to be measured since members of a district board without being salaried staff of the state. The organization, in vogue for at least a century, certainly speaks of the importance of merchants in the social and political set up of north Bengal in the fifth and sixth centuries AD.

The prominent role of merchants is though not merely confined to north Bengal. Since several since 270 sticks and/or sealings have been establish from Vaisali and assigned to the Gupta era. These sticks belonged to professional bodies of merchants and artisans. The term *nigama* denotes a professional institution and is synonymous with *sreni*. It is likely that at vaishali merchants, caravan traders and artisans had their respective professional institutions. Besides these, there was also another superior body since a federation of professional institutions.

The cooperative character of such bodies is particularly accentuated in the *Dharmasastras* of Brhaspati and Narada. Since and when a new member was inducted in a *sreni*, he had undergone some procedures:

- *Kosla* or a test to ascertain his moral character,
- *Lekhakriya* written undertaking through the new member to abide through rules and regulation of the body,
- *Madhyastha*: the required attendance of a person who knew thoroughly the new member.

The *Dharmastra* repeatedly emphasize on the compactness of the organisation. It was anticipate that each and every member of the *sreni* would ensure equal investment to the

organization. If member reasons harm to the *sreni*, in spite of the objections leveled against him through other members, the accused member was to compensate any loss suffered through the *sreni*. A member violating the conditions and circumstances of the institution had to side legal actions. The *Dharmasastra* also strongly maintain that the laws of the *sreni* were at par with the laws of the land. In other languages, an accused member of the *sreni* was to be tried just as to the laws of the *sreni*.

Guilds

Professional institutions were recognized in the legal literature and also in inscriptions since *srenis*, often loosely translated since ‘guilds’. Such *srenis* in our sources are mostly organisations of craftsmen and service clusters, but only occasionally of merchants. A scrupulous body of merchants, named *vaniggrama*, prominently figures in three inscriptions from western India dated in the sixth century. The term *vaniggrama* does not denote a village or resolution of merchants, but a professional body of merchants. A perusal of the mercantile institution *vaniggrama* will be in order here. In two inscriptions from Sanjeli, dated AD 503 and 506 the *vaniggrama* figures prominently. More elaborate information is accessible from the inscription of AD 503. This record enlists the names merchants converging at Vadrappali. There is small doubt that the mercantile organisation in question consisted of both regional and non-regional traders, the latter coming from several spaces. Of the thirteen merchants explicitly mentioned in the record, few came from since distant since Kanyakubja and Ujjayini. The name of merchant, Gdusuyebhassam-from Ujjayini-is distinctly non-Indian. The traders met at the home of merchant Shashthi who was perhaps a regional merchant at Vadrappali. The merchants’ cluster decided to pay voluntary cesses on sure commodities in favour of a Vishnu temple. It seems those three years later, in AD 506, Shashthi donated his own home to the similar Vaishnava temple. The commodities handled through the members of *vaniggrama* at Vadrappali were mostly bulk items of daily requirements. Interestingly, several of the cesses were levied in cash, more precisely in silver coins, although few items like, oil was levied in type. The *vaniggrama* looms big in the third inscription from Gujarat, dated AD 592. This charter, issued through the Maitraka ruler Vishnushena at Lohatagrama in western Gujarat, records a number of privileges for the *vaniggrama* who through such concessions were expected to be settled down at Lohatagrama. All the seventy two clauses in the inscription are related to the behaviors of the *vaniggrama* merchants. That these merchants undertook trips to land abroad, perhaps through sea-going vessels is indicated in the record of AD 592. The inscription informs us in relation to the several kinds of indigenous manners of transportation, including ferry services, and dissimilar kinds of craft-products which were levied cesses at fixed rates.

Market Spaces

Dissimilar conditions seem in our sources to denote centres of swaps. This implies the subsistence of dissimilar kinds of market spaces. Ordinary rural stage centres of deal were described hatta. In an inscription of AD 507 from Comilla area, Bangladesh, figures a dosihatta or a centre for textile deal. The market lay is mentioned also since vipani in Kalidasa's job. Kalidasa looks to have meant shops through the term apana. The shop selling intoxicating liquor is recognized since saundikapanam and the street leading to shops is mentioned since apanamarga. Classical Sanskrit literature is replete with explanations of highways flanked through wealthy shops.

Deal Circuits

Merchants look to have traversed well recognized circuits of overland communications to reach dissimilar spaces in north India. North Indian plains, especially the Ganga basin and the Ganga delta, necessity have offered facilities of riverine communications. A perusal of the travels of two well recognized Chinese pilgrims, Fahsien in the early fifth century and Hsuan Tsang in the first half of the seventh century, demonstrates that greater sections of north India, stretching from the northwestern borderlands to the Bengal delta and Kamarupa in the Brahmaputra valley, were linked through traditional circuits. Needless to add there were numerous difficulties of communications and hazards of unsafe circuits on explanation of unfriendly regions and robbers. Their travel explanations nevertheless amply bear out north India maintained linkages with the Deccan by two corridors: one by eastern Madhya Pradesh and Orissa and the other by the Malwa area. The well-known Dakshinapatha invasion of Samudragupta looks to have penetrated the eastern Deccan by the first circuit; it was by eastern and western Malwa that his son and successor Chandragupta II reached Gujarat to defeat the Saka rulers of western India in late fourth and early fifth centuries AD. King Chandra of the Mehrauli iron pillar inscription is credited with reaching Bahlika through crossing the seven mouths of the river Indus. This may suggest linkages flanked by the Indus delta and northeastern Afghanistan. Overland circuits passing by the northwestern areas were particularly significant for the supply of excellence war-horses from Kamboja. Yavanas or merchants of West Asiatic origin brought fine horses by this circuit to north Indian plains.

Extensive Aloofness Maritime Deal

Our information on extensive-alloofness maritime deal throughout the era under review is relatively less than that accessible for the previous centuries which witnessed vibrant commercial contacts flanked by India and the Roman Empire, especially by the Red Sea network. One notes a

gradual decline of deal with the Roman Empire and the western sector of the Indian Ocean at the turn of the fourth century AD. Though, coins of Byzantine emperors have been established from coin hoards from south India. Ports of Gujarat look to have been significant for deal in the Persian Gulf which provided the biggest communication with Iran under the Sassanid rulers. This will be apparent from the late sixth century descriptions of the port of Barygaza in the Christian Topography through Cosmas Indicopleustes. The sharing of Red Ware from coastal Gujarat to the Kirman coast of south-western Iran strongly suggests maritime contacts of the north-western littorals with the Iranian sea-board. Overseas behaviors are more frequent in the Bay of Bengal which facilitated commercial and cultural contacts with South-east Asia. The Bengal delta played a significant role since an outlet to the sea for the land-locked Ganga plains. In AD 414 Fa-hsien boarded from the well-known port of Tamralipta a commercial vessel bound for Sri Lanka. The account of this voyage clearly illustrates that it was a high sea-voyage, separate from a coastal journey, facilitated through the north-east monsoon wind organization. From Sri Lanka the Chinese pilgrim proceeded to Java in south-east Asia and finally reached the Chinese coast.

The seaborne contacts of the Bengal coast is best illustrated through the attendance of a *mahanavika*, named Buddhagupta in Malay Peninsula. This sixth century inscription from Malay Peninsula mentions Buddhagupta since a resident of Raktamrittika, generally situated in the Murshidabad district, West Bengal. The Bengal delta with numerous rivers including the Ganga was particularly appropriate for reaching the Bay of Bengal. That is why in two sixth century inscriptions from Bangladesh mention is made of a ship-structure region and of an administrator looking after deal. A region in central deltaic Bengal was named *Navyavakasika* which was associated with *praksamudra*. The term *praksamudra* either implies that the administrative region of *Navyavakasika* reached up to the sea or the eastern sea was available from the deltaic zone by a new fluvial channel. The premier port in this region was undoubtedly Tamralipta, figuring prominently in Hsuan Tsang's travel explanation in Bengal. Hsuan Tsang also designates the importance of San-mo-ta-ta or Samatata which maintained overseas contacts with six regions in mainland South-east Asia.

Coinage

A significant index of deal in north India throughout the three centuries comes from coins. The Imperial Guptas are celebrated in Indian history for minting excellent gold coinage for almost two centuries. Superbly executed, the Gupta gold coins were recognized initially since dinaras and later since *suvarnas* in modern inscriptions. They were struck on a average element of weight of 124 granules; in other languages, the Guptas almost certainly sustained the metrology of the Kushana gold coins. It was throughout the reign of Kumaragupta that the first efforts at striking the Gupta

gold coins on a heavier metallic average were made. Few of the gold coins of Kumaragupta weighed 132 granules. The heavier *suvarna* weight average of 144 granules for the Gupta gold coins was introduced throughout the reign of Skandagupta. However the Gupta gold coins begun to be struck on a heavier weight average, the metallic purity of gold coins was distant from being maintained, especially after AD 500. In information, there is a separate possibility that the *suvarna* average gold coins of the later rulers of the imperial Gupta family had a debased gold content.

This strongly suggests a era of economic difficulties within the empire. Long-distance deal could have been disturbed through the Huna inroads in north India throughout the reign of Skandagupta and also throughout the first quarter of the sixth century AD. Several rulers formerly vassals of the Guptas began to issue coins since spots of their overthrowing allegiance to the Guptas. They often imitated the weight average and devices of the Gupta gold coinage; but these gold coins were mostly debased gold currency, sometimes having since low since 37% gold contents. It is unlikely that these gold coins of *suvarna* weight average had adequate intrinsic value and were hardly appropriate for extensive-alooofness deal throughout the second half of the sixth century AD.

The silver coinage of the Guptas began with the conquest of Gujarat area from the Western Kshatrapa rulers in the early section of the fifth century AD. The Gupta silver coinage followed the weight average of Kshatrapa silver coinage and was not based on the extensive-standing indigenous *karshapana* average of 32 *ratas* or 57.6 granules. A copper plate of the fifth century from north Bengal clearly illustrates that the Gupta silver coin was recognized since *rupaka*. The ratio flanked by the Gupta gold and silver coins was 1:16. These coinages in valuable metals speak highly of the deal, including extensive-alooofness deal in north India, at least till AD 500 after which a slump in the extensive-alooofness overland deal in north India cannot entirely be ruled out.

Urban Centres

Urban centres since politico-administrative centres, deal centres and cultural centres figure in the literary texts of the era, especially in the celebrated works of Kalidasa. Sanskrit texts and inscriptions are replete with references to *puras* and *nagaras*. The well-known lexicon, *Amarakosa*, cites the conditions *pura*, *nagara* and *putabhedana* since interchangeable conditions to denote urban centres. The term *putabhedana*, it has already been stated, means a kind of deal centre. Its inclusion in conditions to denote municipalities suggests that at least few biggest centres of deal assumed urban proportion. Another well recognized technological treatise, the *Kamasutra* of Vatsyayana has the city bred man at the centre of its focus. Images of vibrant municipality life are also accessible in four *bhanas* or monologue plays of the Gupta era. On the other hand, Fa-hsien and Hsuan Tsang provide the impression that many well-known and older municipalities of north India lost their

erstwhile prosperity and glory and were experiencing decay. To this has been added the field archaeological information in relation to the urban centres of north India several of which showed signs of impoverishment. Municipalities like Sravasti, Mathura, Atranjikheda, Khairadih, Rajagriha, Vaisali, and Champa were past their heydays. It is true that municipalities like Varanasi and Ujjaini sustained to be significant urban centres.

There is also no biggest sign of decline in the urban average at Mahasthangarh and Bangarh in north Bengal. But in common the archaeological material of the Gupta stage is not since rich since the Saka-Kushana-Satavahana stage in conditions of urban artefacts. A number of scholars have attributed the decline of urban centres in the Gupta era to the decrease in India's extensive-alloofness deal with the Roman Empire and to the adverse effects of the Huna raids on overland deal circuits in north India. This perception of languishing deal and decaying urban centres throughout the Gupta and post-Gupta times has generated considerable scholarly controversy.

Deal, Market Spaces and Urban Centres AD 650-1300

Studies of these six centuries and a half have in recent years generated significant debates in the middle of historians. The era in question began to draw the attention of historians as the mid-thirties of the twentieth century, however initially scholars showed a separate preference for dynastic history. Politically, north India and the entire of the subcontinent abounded in monarchical dominations. But unlike the dominations of the pre-600 AD none of the dominations exercised paramount location in excess of north India, the Deccan and the distant south. The political scene is featured through the prevalence of a number of local dominations of great strength and several regional dominations.

Another notable character of the politico-administrative set up is the attendance of numerous feudatories or *samantas* of several grades and ranking. The political scenario is much more intricate than the previous centuries. In recent times scholars are more interested in explaining the procedures of the emergence and consolidation of local polities rather than presenting the narratives of dynastic successions. All these rulers issued numerous land grants which give the largest source of information not only for the political life but also for social, economic and cultural history.

Debates on Urban Decay-Arguments for Decline

Since we have pointed out earlier, the land grants understandably include very precious data on early medieval rural community and economy. But the extremely nature and purpose of these

grants leave small scope of recording behaviors of craftsmen and merchants in urban centres. One can hardly miss the immense proliferation of copper plate charters as AD 600 in the entire of the subcontinent, including north India. Information on the nonagrarian sector of the economy in such grants is relatively scarce. This is in sharp contrast to the donatives records and administrative documents prior to AD 600 where merchants, craftsmen, several professional clusters were prominently mentioned often in the context of the non-rural settlements. A number of scholars have argued that the transform in the mode of documents and documentation is in information an indicator of the changes in social and economic life. The vast number of land grants implies a strong ruralization of the economy after AD 600/650. In such changing material milieu the relevance of craftsmen, merchants and urban centres seem to have lessened. It has been argued that the decline in India's flourishing and brisk commerce with the Roman Empire after the fourth century adversely affected India's commercial economy. The era from AD 600-1000 did not witness India's meaningful participation in extensive-alloofness deal, and since a result there was small urge to commodity crafts manufacture and their swap in an international network. It is implied so that India's extensive aloofness deal revived after AD 1000 most because of the development in the deal with the expanding Arab commercial network. To the data from epigraphic materials has been added and complemented information from literary texts, especially the *Puranas*. A secure perusal of the biggest *Puranas*, which seem to have taken their present form through approximately 4th/5 century AD, has led several scholars to conclude that the *Puranic* descriptions imply sharp changes in social, economic and political situations. These scholars perceive biggest crises in the socio-economic and political set up after fifth century. Attention has been drawn to *Puranic* descriptions of the impoverished circumstances of merchants in the *Kaliyuga*, the worst of the ages in the traditional scheme of four ages in Indian idea.

The merchants would be reduced to the location of servants and rice-husker in the Kali age. Only a handful number of merchants are explicitly stated in inscriptions in north India throughout the era from AD 600 to AD 1000. Tamralipta, the premier port not only of Bengal, but also of the whole land-locked Ganga valley, died down in eighth century, most on explanation of the situation of the river on which it stood. The last recognized epigraphic reference to Tamralipta is established in an eighth century inscription from the Hazaribagh area in Bihar. The port of Barbaricum in the delta of the river Indus did not enjoy any economic prominence in the early medieval times. The port of Daibul in the similar area began to approach to limelight since an international port after tenth century. Likewise, the premier port in the Gujarat, namely Barygaza or Broach, had been past its former glory.

The fading out of these three ports could have adversely affected the extensive-alloofness maritime deal of north India. All these have been taken to demonstrate the gradual decline of deal and merchants in the economic life of early medieval north India. The above portrayal of dwindling deal in the early transitional ages has been further driven home through the paucity of coins of valuable metals. Three outstanding local dominations of early medieval times, namely the Palas and the Senas of Bengal and Bihar and the Rashtrakutas of the Deccan did not issue any coins. Such coins would have been unsuitable since reliable metallic medium of swap in extensive-alloofness deal because of their questionable intrinsic value which did not match their side value. A notable exception to this declining monetary situation is seen in the issue of excellence coins through the Shahi rulers of the Punjab and northwestern India. It has been pointed out that the territory under the Shahi rulers of northwestern India had not any copper plate. Therefore few scholars would like to underline that money economy and landgrant economy were mutually incompatible.

In several copper plate grants from the Ganga valley and especially from Bengal, coin conditions like *purana*, *dharana*, and *dramma*. Occasionally happen. However these coin conditions were recognized, no actual specimen of such coin has been exposed from the realms of the Palas and the Senas. On the other hand big number of copper plates often mentions *kapardakas* or *cowries*. The expression *kapardaka-purana* also figures in these copper plates. The latter term does not point to a scrupulous kind of coin, but refers to a *purana* or a silver coin in conditions of its equivalence to *cowry*-shells. The traditional arithmetical tables of early medieval eastern India designate that the ratio flanked by a silver coin and *xt*: *cowry*-shells stood at 1:1280. In other languages 1280 *cowries* were equivalent to one silver coin. The wide exploit of the expression *kapardaka-purana* in early medieval inscriptions, hitherto strange before eighth century, may suggest that *cowry*-shells were the principal medium of swap. These look to have replaced the metallic medium of swap which lost their relevance on explanation of their questionable intrinsic value.

Excavations at Colgong close to Bhagalpur in eastern Bihar have acquiesced big number of *cowries*, thereby providing the material evidence of their regular circulation since a medium of swap. It has been pointed out that *cowries* could have been only a poor and inadequate substitute for metallic money. The transportation of the vast bulk of *cowry*-shells would have created more troubles than advantages; in other languages, *cowry*-shells are viewed since unsuitable for extensive-alloofness commerce. These could be at the best useful for regional stage deal and were 'restrictive of extensive-alloofness deal'. Therefore the widespread prevalence of *cowry*-shells since notional currency is interpreted since a further proof of the decline of extensive-alloofness deal. The perception of a 'monetary anaemia' afflicting the erstwhile vibrant commercial economy is strongly present in several historical researches.

Dwindling deal and comparative absence of metallic money were not conducive to the big level manufacture of commodities for swap related purposes. The result was not only immense dependence on agriculture, but also of a self-enough village economy. All requires of the villages are suggested to have been produced and accessible in villages which felt small urge for movements of commodities from outside. The comparative lack of deal therefore brought in relation to the self-enough villages which were enclosed and stagnant. The lack of coined money could have posed serious troubles for rulers to pay salaries to their administrators. Under such conditions, the ruler had to take recourse to assigning land to his administrators in lieu of cash. This would provide rise to the practice of issuing secular land grants, in addition to grants of lands for religious persons and organizations. The assignment of service or secular land grants further impoverished the royal exchequer and corroded the central power. In the absence of deal and paucity of metallic medium of swap there appeared in early medieval north India an essentially self-enough and enclosed village economy. The adverse effects of languishing commerce and 'monetary anaemia' were not therefore limited to economic life, but paved the method for a decentralized polity and prelisted sovereignty. It is viewed through proponents of Indian feudalism that languishing commerce resulted in an acute shortage of metallic currency. This ushered in great difficulties of payment of royal functionaries in cash; the outcome of this situation was the practice of giving service-grants to high administrators in lieu of cash. In course of time these powerful functionaries not only amassed enormous wealth from the regions assigned to them, but became in the vicinity extremely powerful. This would further undermine the power of the ruler, the apex political power. In other languages, the ruler slowly suffered considerable loss of his economic and political prerogatives at the cost of these feudatories and vassals. The circumstances in economy and polity resulted in the genesis and consolidation of feudalism in India in early medieval era.

Since the economy, characterized since feudal, was steeped in ruralism and gave small scope of deal, it is supposed to have been hardly conducive to urban development. In spot contrast to the wealth of archaeological data on urban centres of early historical era, exhumed and explored information in relation to the early medieval municipalities is much poorer. Several of the former urban centres have acquiesced proof of their decaying material milieu, haphazard layout and utilization of re-used bricks. These are interpreted since clear signs of deurbanisation in excess of greater sections of the subcontinent, including north India, throughout AD 600-1000 stage. A Prakrit text mentions that urban centres turned into villages. It has been argued that decline in India's commerce played a crucial role in the urban decay. Urban regions, belonging to the non-agrarian sector of the economy, were connected up with deal centres, and several of urban centres were also biggest centres of deal and commerce. Examines of the copper plates of the Palas, Senas and the

Pratiharas may indicate lesser references to conditions like *nagara* and *pura*. Copper plates are replete with references to *jayaskandhavaras* or victorious army camps. Such *jayaskandhavaras* began to act since politico-military headquarters. It has been inferred that urban centres since regions for swap and crafts manufacture slowly faded absent and were replaced through military and political headquarters. Early medieval north India witnessed the rise of several centres of pilgrimage which since sacred centres sometime assumed urban proportions. The historians of Indian feudalism argue that since urban centres lost their primary relevance since trading zones, they became religious centres which would undermine their role since centres of manufacture/production of commodities and swap. Urban contraction resulted in rural expansion which strengthend the material milieu of the feudal economy of early medieval India. Deal, or more precisely the assumed absence of deal, plays a crucial role in the feudal social formation in early medieval north India. Three regions showed typical symptoms of a feudal economy: Bengal under the Palas and the Senas, the Gurjara-Pratihara kingdom in the Ganga-Yamuna *doab*, and the Rashtrakuta domain in the Deccan.

Debates on Urban Decay-Arguments Against

The portrayal of a declining commercial and urban economy in north India throughout the early transitional ages, though, has not gone uncontested. The formulation of the feudal economy in early medieval India has also been critiqued. Several scholars have pointed out factual inaccuracies in the formulation of the feudal economy. Efforts have been made through by several sources, including epigraphic materials, to illustrate that deal did not alarmingly decline and that there was no biggest de-urbanisation in excess of a long region. It is beyond any doubt that the practice of land grants, often issued with reference to lands lying in the uncultivated, unsettled forest or fallow tracts, paved the method for unprecedented rural expansion. But does the proliferation of agrarian settlements necessarily imply consolidation of self-enough and enclosed villages? Two essential and indispensable necessities of human life, namely salt and iron, were not accessible in the vicinity at each and every village. If these items were to be procured from non-regional sources, then serious doubts can be raised in relation to the perception of self-sufficiency and the enclosed nature of early medieval villages.

Attendance of Market Spaces

In-depth studies of land grants reveal that market spaces were not entirely away in these records, even in inscriptions of pre-1000 AD days. Inscriptions and textual sources speak of the attendance of several kinds of market spaces, few of them hitherto strange prior to AD 600.

Therefore the term *hatta* or *hattika* regularly occurs in the inscriptions of north India in the early transitional ages. *Hatta/hattika* usually signifies a rural stage little centre of swap. The term survives in the contemporary word *hat*, widely recognized in Bengal and Bihar. Such rural market centres are periodic in nature in that transactions do not take lay there everyday, but only once or twice per week on fixed days. In copper plates which are strongly oriented to the rural surroundings, village stage market spaces like the *hatta* and the *hattika* figure regularly. They are also mentioned in the copper plates since significant landmarks in the rural regions. Several such epigraphic descriptions of the *hatta* also speak of the availability of the drinking-water and resting spaces, feeding homes secure to the *hatta*. In few inscriptions of the Palas, the conditions *hattavara* is encountered. It would almost certainly denote a *hatta* more significant or superior than an ordinary one. A case in point is almost certainly Devapaladevahatta. It stood secure to the well-known monastery and university of Nalanda. The *hatta* being named after Devapala, the well-known Pala ruler, it is likely that it was superior and more prominent than a easy rural stage market lay. That there stood a *hatta* in the eastern section of the well recognized urban market centre at Tattanandapura is evidently clear from the inscriptions established from there. This *hatta* was certainly not a rural stage market centre, but was located within a big urban trading region. The mention of a *hattamarga* or a street leading to a market lay is established in another inscription from Tattanandapura. Therefore the term *hatta* could mean a deal centre in an urban region, in addition to its more general connotation of a rural swap centre. A same *hatta* was recognized at the formerly deserted location of Rohinisakupaka in AD 861 through Kakkuka in Jodhpur region of Rajasthan; at this market centre were also settled merchants.

At early medieval Prthudaka took lay in the ninth century a horse-fair. The relevant inscription also provides us names of horse-dealers who assembled at Prthudaka. The term *yatra* here stands for a fair which is once again periodic in nature. It is hardly expected that animal fairs would be mannered daily during the year. On the other hand it is logical to infer that such a fair would be organised at a fixed time in the year, particularly throughout few festive seasons. Such an annual fair for the transactions in wooly an inscription calls it since *kambali-hatta*.

It is approximately entirely from north Indian inscriptions that one comes crossways a new kind of market lay from the eighth-ninth centuries. This is *mandapika*, literally meaning a sheltered region. The term in question can easily be equated with *mandis* which abounds in contemporary times in the Ganga-Yamuna doab, upper Ganga valley and western India. These *mandis* are superior than rural stage *hats*, but smaller than markets in big urban regions. One of the earliest references to a *mandi* is seen in the Baijnath *Prasasti* in the Kangra area in Himachal Pradesh. At Kiragrama there was a *mandapika* where three merchants belonging to a family of merchants donated a cash of 6 *drammas* out of the daily collection at the *mandapika* in favour of a temple at Baijnath. At Siyadoni

stood another big *mandapika* where the attendance of merchants and several professional clusters is unmistakable from the inscriptions. Inscriptions also suggest that there was a marked concentration of *mandapikas* in Rajasthan and Gujarat from the transitional of the tenth century onwards, and especially after AD 1000. The *mandapika* at Naddula demands our special attention. Inscriptions from Nadol illustrate that Naddula was initially a village, in information one village in a cluster of twelve villages. Naddula subsequently appeared since a *mandapika* where considerable deal took lay most in granules and other agricultural products. Naddula then began to be described a *nagara* or municipality and ultimately became the political centre of the Chahamanas of Nadole. It seems that Naddula was situated approximately at the centre of the cluster of twelve villages or was more or less equidistant from those villages. This paved the method for the establishment of a *mandapika* at Naddula. These factors were instrumental in the extra ordinary transformation of Naddula from a village to an urban centre and finally to an apex political centre of regional domination in early medieval Rajasthan. That these *mandapikas* were well linked through deal circuits and accessible transport systems is demonstrated through epigraphic records. Therefore in AD 1114 commodities were brought to the *mandapika* at Mangalapura through oxen, asses, and camels. *Mandapikas* were appearing also in the Kalachuri kingdom in Dabhala.

Such a *mandapika* was located at Bilhari and another at Karitalai. The *mandapika* at Bilhari is mentioned in an inscription of AD 975. The commercial character of the *mandapika* is clearly driven house through the references to merchants assembling there. Several *mandapikas* were recognized since *sulkamandapikas*, i.e. tolls and traditions were levied both in cash and type at the *mandapika*. The levy of tolls is a clear evidence of the commercial transactions at the *mandapika*. The *mandapika* at Nadole was designated since *Srinaddula talapada sulkamandapika*. The *mandapika* in question was officially recognised since a toll-taking centre; moreover its site in *talapada* region further underlines the strong possibilities of revenue-bearing characteristics of the *mandapika*.

No less significant is the impressive range of commodities which were brought to the *mandapika* for sale. Big diversities of agrarian products, including granules and green vegetables, salt, frequently seem in the middle of the list of items brought to the *mandapika*. Interestingly sufficient, pepper was accessible at the *mandapika* at Bilhari in Madhya Pradesh; pepper is unlikely to have been a regional product of this area. It was almost certainly brought from distant absent Malabar, the region best recognized for pepper plantation. At Bilhari and also at the *mandapikas* of Sripatha and Vusavata were sold much costlier items like the horse. The elephant, another valuable animal meant for an elite clientele, figures in the list of dutiable items at the *mandapika* at Bilhari. The *mandapikas* therefore witnessed transactions in granules, several daily must commodities, and

costlier items like spices and animals like horses and elephants. Few of the *mandapikas*, for example those at Siyadoni and Bilhari, were designated since *pattanamandapika*. The term may suggest either a *mandapika* in an urban region or a *mandapika* which had assumed an urban proportion. The *Lekhapaddhati*, an early medieval text from Gujarat, exploits the term *mahamandapika*. The exploit of the prefix *maha* clearly demonstrates that at least few *mandapikas* became much superior than their counterparts. These *mandapikas* look to have maintained crucial trading linkages both with their respective rural hinterland and also with superior urban regions.

Market spaces evidently had shops which were recognized since *vithis* and *apanas*. At Siyadoni few shops were called since hereditarily owned through few merchants, few others were owned or built through merchants themselves. The mention of shops owned hereditarily through traders-perhaps for three generations-will suggest the brisk commercial behaviors in such shopping establishments in excess of a extensive era. These shops were evidently meant for retail deal.

However *hatta/hattika* and *pura, nagara* figure in copper plates of the Pala-Sena era, *mandapikas* are away in Bengal. Bengal, situated in the Ganga delta and watered through several rivers, had many riverine ports facilitating inland riverine communications. Early medieval copper plates from Bengal often mention little boat stations since landmarks in rural places which have innumerable streams and rivulets, canals, and channels. Of course the mainly significant riverine circuit was beside the Ganga or Bhagirathi on which plied several vessels. From the late seventh century onwards, the eastern section of the delta began to have riverine ports. One such port was Devaparvata which just as to copper plates through the river Kshiroda on which plied several boats approximately the river-port of Devaparvata. Another copper plate of c. AD 971, establish from Sabhar records a rare lay-name: Vangasagara-sambhandariyaka. Sabhar is situated on the river Vamsi and functions since a little inland riverine port. The term *sambhandariyaka* may be taken to mean lay offering adequate or proper facilities for storage of goods. The extremely name Sabhar is suggested to have been derived from the word, *sambhara*, meaning a stock of commodities. There is a strong likelihood that at Sabhar or ancient Sambhara stood a *sambhandariyaka*. This warehousing facility at Sabhar may bring it secure to *putabhedanas* of earlier times.

Images of mercantile behaviors figure in several kinds of literary texts. The *knivalayamala* of *Girasenasuri* offers a lively explanation of an assembly of merchants who congregated at the familiar port city of Surparaka. However the explanation is almost certainly based on earlier memories, the motivating point is the swap of experiences of merchants in the middle of themselves. The similar port also seems in the *Jatakamala* of Aryasura. At Surparaka lived the Buddha in one of his previous births since a master mariner, conversant with the art of bringing in and taking out

ships? These leave an impression of stability, and no cessation, of commerce, contrary to the notion that commerce was on the wane in the wake of feudal social formation.

The huge plains of north India were well frequented through many overland circuits of communication, few of them gaining scrupulous prominence in the early medieval times. Therefore Chiatan informs us in relation to the circuit which ran from Kamarupa to Magadha through touching Pundravardhana and Kajanigla. A number of overland circuits linked Kanyakubja with dissimilar sections of India, since Albiruni accounted. One such circuit ran from Kanyakubja to Gangasagara by Ayodhya, Varanasi, Pataliputra and Monghyr. Another circuit starting from Kanyakubja linked Prayaga, and then by the Rewa area of Madhya Pradesh reached Orissa and from there extended since distant south since Kanchipuram. The Ganga-Yamuna *doab* was well linked with western India, according to Albiruni. Therefore Mathura maintained an overland linkage with Ujjayini and Bayana and from both the spaces it was possible to reach the well recognized port of Somnath in Kathiawad.

In the twelfth and early thirteenth century copper plates of few Sena kings one notes a new type of resolution, named *caturaka*. The term *caturaka* is not encountered in the Bengal inscriptions prior to twelfth century. It means literally a lay which stood at the convergence of four roads. The *caturaka* was not a village, but it was also not a big urban market region. One such *caturaka* was recognized since Betadda-caturaka on the river Ganga. This is recognized since Betore in Howrah district, West Bengal which came into considerable prominence in the sixteenth century since an inland riverine port connecting the Ganga with the well-known port of Saptagram on the river Sarasvati. The beginning of the role of Betore since a riverine port may therefore go back to the twelfth century. These inland port cities in the Ganga delta engaged a location intermediate flanked by the rural hinterland and big urban centres and played a role more or less same to that of the early medieval *mandapikas* of northern and western India.

The sources may not speak of a slump in deal in north India. Indirect proof of commerce can also be gleaned from the list of several revenue-collecting administrators accessible in the copper plates. Therefore the references to the *hattapati*, *saulkika*, *tarika*, *gamagamika*, *nauvata* and *araddha-nauvata* cannot but highlight movements of merchants and commodities in north India. This also implies the subsistence of few circuits of communications, especially the overland communication in north India. In the first half of the ninth century Viradharadeva undertook a journey from Nagarahara to Sambodhi. The inscription which records this also defines Viradharadeva's delight at the sight of several of his country-men at Bodhgaya. This amply demonstrates the regularity and frequency of travel beside this long overland communication organization. This overland circuit necessity has been particularly significant for the import of excellence war-horses from the northwestern

borderland of India into the Ganga valley. It is so not surprising that the Pala inscriptions tell us in relation to the eagerness of the Pala kings to procure horses from the northern quarters. This is also corroborated through the *Tabaqat-i-Nasiri* of Minhaj-us Siraj who impresses upon us the regular arrival of Arab horse dealers in Nudia. Bengal's linkage with the north-eastern boundary regions and Kamarupa in scrupulous are amply borne out through inscriptions, Minhaj's explanations and Marco Polo's travels. Gujarat under the Chaulukya rulers experienced considerable improvements in overland connections. Anahilapura, the premier municipality of the Chaulukya kingdom, was well linked with Munjapura, Jhunjhuvada, Viramgam, Wadhwan, Sacla, and Vanthali. On the other hand it was also connected up with Varanasi, Prayaga and Dhara. Significant ports of Gujarat, like, Stambhapura or Cambay and Somnatha, maintained effective communications with inland cities, especially those in the Malwa plateau. Tamralipta, the premier port in the east till the eighth century, was visited through merchants from Ayodhya. In AD1024 the Cola king Rajendra's daring raid from coastal Andhra to Vangala-desha in Bengal clearly designates the overland linkages of Bengal with Orissa and from then onwards to Andhra. In the distant North-West, Multan in the Punjab rose to considerable prominence since a biggest centre of deal which was linked with the Ganga plains and also with the northwestern borderland of the subcontinent. Multan looms big in the Arab explanations since a biggest deal centre.

Significant Attendance in Maritime Extensive Aloofness Deal

The data and arguments do not suggest a slump in deal in north India throughout the early transitional ages. A cautious perusal of accessible information may not also suggest a languishing deal of north India with regions abroad. For this purpose, the Arabic and Persian texts give us with significant information. It is surprising that the proponents of Indian feudal formation have usually neglected these sources for the understanding of the extensive-alloofness deal of India. The rise and spread of Islam in West Asia, sections of Africa and in the Mediterranean area right up to Spain proved to be conducive to commercial movement. Islam is marked through a separate orientation to deal and urbanism. The establishment and consolidation of the Abbasid Caliphate in the eighth century facilitated overland communication of West Asia with Central Asia, China and South Asia. But more spectacular growths are noticeable in the maritime commerce. The Abbasid Caliphate was instrumental in raising the importance of the Persian Gulf with Siraf since the premier port in the northern section of the Gulf. The basis of the Fatimid Caliphate in Egypt in AD 969 led to another biggest transform in maritime commerce. It resulted in the rise of the Red Sea since the principal sea-lane of western Indian Ocean, facilitating thereby sea-borne deal with India and also the Mediterranean areas.

The extensive-maritime deal in the Indian Ocean had its western termini either at Siraf or at Alexandria in Egypt and the eastern termini in maritime South-east Asia and also the coast of China. These maritime movements crossways the Indian Ocean, guided and formed through the predictable alterations of the monsoon wind organization, had to be involved with India which stood at the centre of the Indian Ocean. The extremely designation of this maritime legroom since *al bahr al Hind* strongly underlines the familiarity of Arabic-speaking merchants and travelers with the Indian ports and harbors. Two segments of the bahr al Hind were well recognized to the Arab authors: bahr Larvi and bahr Harkal ladesh; therefore bahr Harkal denotes the Bay of Bengal. However ports are numerically more in the Deccan and the distant south of India, a number of ports are recognized in north India too from the Arabic and Persian texts. It is true that these texts speak of greater volume and regularity of deal in the post-1000 AD stage, but there are clear indications of India's maritime deal even before AD 1000.

Explanations of the first Arab invasion of Sind in eighth century in the *Chachnama* and the explanations of an Arabic Historian al Baladhuri demonstrate the importance of the port of Daybul, situated in the Indus delta. Already through this time, Daybul was noted for its maritime contacts with Sri Lanka. The ruins of this early medieval port have been unearthed at the location of Banbhore in Pakistan. The prominence of Daybul continues in the explanations of Arab writers of the ninth to twelfth centuries. In the western sea-board of northern India it is, though, the Gujarat coast that stole the limelight. However Broach, described Baruz in the Arab explanations, had faded absent, a great port came into the commercial scene, viz. Sristambhapura/Sristambhatirtha or contemporary Cambay. It figures repeatedly in the Arabic explanations of Sulaiman, ibn Khurdadbih, al Masudi, and Buzurg ibn Shahriyar, the anonymous author of the *Hudud al Alam*, al Biruni, al Idrisi, Chau-ju-kua, Marco Polo and Ibn Battutta. It maintained contacts with both Persian Gulf ports like Siraf and Hormuz and Aden at the mouth of the Red Sea.

Two early medieval Sanskrit texts, the *Vastupalamahatmyam* and the *Jagaducharita*, speak highly of this port since the centre of behaviors of two premier Gujarati merchants, Vastupala and Jagadu. Cambay, certainly the outstanding port, was, though, ably supported through many smaller ports which could have acted since feeder ports to the principal port of Cambay. These were, al Dyb and Ghogha. The secure contacts flanked by Hormuz and Cambay, Somanatha and Ghogha are well documented in epigraphic and literary sources. Ghogha is specifically mentioned since a point of arrival for ships from Hormuz. The port of Cambay was also well connected up with a number of ports in the Konkan coast like, Thana, Sanjan and Chaul all of which are mentioned in the Arabic explanations. These ports in Gujarat and the neighbouring north Konkan coast also seem in Indian textual sources and in inscriptions, usually labeled since *velakulas* or ports.

Attention now may be turned to the ports on the Bengal coast, the biggest outlet for the land-locked Ganga valley to the sea. It is true that nothing is heard in relation to the active role of the great port of Tamralipta after the eighth century AD. One, though, cannot also miss that since early since in the first half of the seventh century Hsuan Tsang was impressed with the sea-borne connections of Samatata with sure regions in South-east Asia. This was happening when Tamralipta was at its glorious best. That Samatata-Harikela area was emerging since a biggest point of get in touch with maritime South-east Asia in late seventh century will be apparent from the explanations of Itsing. The Arab explanations, from the mid-ninth century to early fourteenth century, speak extremely highly of a port in the kingdom of DHM, thereby locating it in the Bengal delta. This port is Samandar. The name is almost certainly derived from the term *samudra* or sea. It was situated at the mouth of a river and secure to it was an island, which just as to al Idrisi was full of merchants of diverse countries. Idrisi also informs us that the port was situated secure to a creek or inlet which facilitated ingress and egress of vessels. Ibn Battutta undertook a journey from Sudkawan distant up in the north to Habang which is recognized with Habiganj in Bangladesh. He undertook a riverine journey, sailing beside the Blue River. This river is usually recognized with the Meghna. The several literary explanations in relation to the Samandar/Sudkawan have led to its identification with a port situated close to contemporary Chittagong. In information, the region had approach to be recognized since *navachattamandala* in two vase inscriptions, respectively of the eighth and the tenth centuries. The decline and loss of Tamralipta looks to have been substantially compensated with the rise of a new port in the easternmost section of the delta. Samandar, just as to the Arabic texts maintained commercial linkages with Serendib, Uranshin, and Ganja. Ibn Battutta, however belonging to a later era, speaks of the voyages flanked by Sudkawan and the Maldives. We are not certain in relation to the Sudkawan's connections with South-east Asia. But it is well recognized from a copper plate from Nalanda that the king of Java, Balaputradeva, requested the reigning Pala king, Devapala to grant five villages to the Nalanda monastery; the request of the Javanese king was duly honoured. This is clear signal of the regular cultural contacts flanked by Bengal and maritime South-east Asia. Such cultural contacts seem to have been located in frequent commercial contacts flanked by the two regions. The significant point is that the Arab authors speak of the availability of fine excellence textiles, Qamaruni aloe wood, rhinoceros horns and swords at the port of Samandar which was certainly the point of shipping of these items. Qamaruni aloe wood, standing second only to the aloe wood of Multan, was not a regional product of Bengal or Samandar itself. It was brought from Kamarupa beside the river to Samandar. The rhinoceros horn too seems to have reached Samandar from northeastern sections of India. The sword was almost certainly a manufactured thing from Anga which was well-known for the creation of this weapon. Textiles were in all probability regional

products of Bengal which earned continued fame for the manufacture of finest excellence cotton textiles. The port of Samandar, so, commanded an long hinterland. Since we have earlier pointed out, smaller and inland riverine ports in the Ganga delta are likely to have provided crucial linkages flanked by the premier port in the Bengal delta and the interior. There is small to dispute the brisk extensive-alooofness maritime deal in early medieval Bengal. It is hard to subscribe to the perception of a languishing extensive-alooofness deal in early medieval Bengal.

Subsistence of Strong Merchant Society

Our sources also underline the varieties of merchants. While older conditions like *vanik*, *sarthavaha* and *sresthi* sustained, there emerged new kinds of merchants. A tenth century inscription from western India speaks of *sresthi-sartha*, who was perhaps a money merchant since he was establish to have minted silver coins. At the well-known *mandapika* of Siyadoni we note the active attendance of a salt-dealer, whose father too was a salt-dealer. He was wealthy sufficient to have provided considerable patronage to a number of temples in Siyadoni. However individual merchants do not figure in big numbers in inscriptions of early medieval Bengal, a *vrddhasartha* seems in one donative record of late tenth century. The term *vrddhasartha* may literally denote an old merchant; it may also stand for a senior trader. Inscriptions from Gujarat and Rajasthan regularly refer to rich donations through merchants to religious and cultural centers. An insightful probe into early medieval inscriptions from Rajasthan highlights the rising importance of a number of regional merchant lineages, e.g. Dhusara, Dharkata, Uesavala/ Oisavala, Srimali and Pragvata. Merchant-donors often highlighted their genealogy at the time of creation donations with a view to underlining that they belonged to a status-cluster and were not upstarts. A scrupulous kind of merchants began to figure in inscriptions from Gujarat after AD 1000. They are described *nauvittakas*, not encountered hitherto before. The term designates a merchant who derived their wealth from ships a secure correspondence to the Persian/Arabic word, *nakhuda*, i.e. *khuda* or lord of *nau*. The two conditions became frequent sufficient in coastal Gujarat to be abbreviated to *nau* and *nakhu* in inscriptions. Few merchant millionaire of Gujarat, like Vastupala and Jagadu, invested in shipping business; however they were not primarily shipowners. There is small doubt that the *nauvittakas* and *nakhudas* were extremely prosperous.

Significant Flow of Metallic Money

The data and arguments presented on merchants, market spaces, commodities, ports and circuits of communication do not portray the image of a languishing deal, including extensive-

aloofness commerce, in early medieval north India. It will be logical here to seem into the problem of the comparative lack of metallic currency in early medieval India. The wide prevalence of cowry-shells in eastern India, especially Bengal, does not necessarily indicate that these were indicators of transactions within a restricted commercial route. Cowry shells are not in the vicinity accessible in Bengal. Arab explanations of 12, 13, 14th centuries and the descriptions of Ma huan amply demonstrate that cowry shells reached Bengal from distant absent Maldives. These were brought in shiploads from the Maldives to Bengal which exported rice to Maldives. Cowry shells cannot be so restrictive of extensive-aloofness deal, since these were well integrated into the overseas deal in the Indian Ocean: Cowry shells were shipped since bulk items and functioned since little swap and ballast in the Indian Ocean maritime economy.

While the Palas and the Senas of Bengal are not recognized to have struck coins, this does not, though, prove the non-minting coins in Bengal. Continued researches for the last three decades extremely effectively demonstrate that in the south-easternmost sections of Bengal were continuously issued excellent silver coinages from eighth to the thirteenth centuries. This demands a secure scrutiny. The last gold coinage of ancient Bengal cannot be pushed beyond late seventh century. These were imitations of Gupta gold coins of *suvarna* average, but heavily debased.

Though, from the eighth century onwards began to be struck high excellence silver coins, usually weighing 8 grams. The obverse of these pieces has the figure of a recumbent bull and the legend Harikela; the reverse has a tripartite symbol. No name of the issuing political power is seen on these coins, which carry the name of the area only. We have already pointed out that Harikela denoted the Noakhali- Chittagong region of Bangladesh, to the east of the river Meghna. The importance of Harikela since a zone of commerce has already been underlined. These coins have few affinities to the same silver pieces issued through the Chandra rulers of contiguous Arakan. Palaeographical analysis of the writing of the legend Harikela suggests that these inscribed coins belonged to the eighth century. More or less at the similar time also emerged same silver coins with the legend Pattikera inscribed on the obverse face. Pattikera, like Harikela, refers to a locality, corresponding to Paitkara, Comilla district, Bangladesh. The silver pieces of Pattikera were convinced through the minting custom of the Harikela silver coinage. Silver coins of high excellence sustained to be minted in Harikela after the eighth century, but with few significant changes. The later Harikela silver pieces became broader in flan and thinner. Legends and devices emerged only on one face; the reverse was left completely blank. The obverse illustrates the figure of the recumbent bull, the tripartite symbol and the legend Harikela. The legend Harikela, in the later silver pieces, has been palaeographically assigned to the era from ninth to twelfth/thirteenth centuries.

The later Harikela silver pieces were so in circulation from the ninth to the twelfth/thirteenth centuries. The mainly significant transform, though, is visible in their metrology. These pieces were struck on two dissimilar weight averages. The first weight average ranged flanked by 2.3800-3.3600 grams; the second kind of weight average ranged from 0.8392 to 1.9912 grams. Both the kinds were much lighter than the first series of Harikela coins which weighed approximately 8 grams. The lighter coins corresponded to the well recognized Indian *karshapana* average of 3.73 grams. These later Harikela silver pieces could extremely well correspond to the coin-conditions like *purana*, *dramma*, *dharana*, repeatedly figuring in the Pala-Sena inscriptions. On the other hand, the later Harikela silver pieces have clear parallel with the reformed Arab *dirham* silver currency of post-tenth century. Excavations from Mainamati have a gold coin of the last Abbasid Caliph, al Mustasim al Billah. The Harikela coins, being akin to *puranas* of the Pala-Sena records, could also be easily exchanged with and converted into *cowry* shells. The monetary scenario in south-eastern Bengal fits in well with the information on brisk deal by the port of Samandar. The reports negate the widely held perception that Bengal had small valuable coinage in the early medieval times and so experienced a sharp slump in its deal. The survey also demonstrates that issuance of landgrants and coins were not mutually incompatible in a given region in early medieval India.

It is significant that there are many early medieval coin hoards in northern India, especially in the Ganga-Yamuna doab region, which till early eleventh century was dominated through the Gurjara-Pratiharas. Recent analysis of coin hoards, mostly containing *dramma* pieces, ‘demonstrates that the volume of coinage in circulation in North India c. AD 600-1000 was comparable to that of the Kusana, Sultanate and Mughal era, and clearly larger to that of the preceding Gupta and the succeeding Rajput eras’. No shortage of currency in the Gurjara-Pratihara kingdom is visible. Therefore neither in eastern India, dominated through the Palas and Senas, nor in the Gurjara-Pratihara realm, there is valid empirical grounds to maintain the conclusion that early medieval north India experienced a ‘monetary anaemia’ and languishing deal in the early transitional ages, especially c. AD 600-1000.

Development of Cities

If it is hard to substantiate any crisis in deal and commerce of the early medieval times and a sharp fall in the number of coins in circulation, it will be relevant to analyze whether north India witnessed widespread urban decay. A biggest impediment to the revise of urban centers of the post-Gupta times is the lack of archaeological materials. Small attention has therefore distant been paid to explorations and excavations of early medieval locations, since the principal thrust is on the early historical urban centers. Hsuan Tsang’s explanations point to the decaying circumstances of

municipalities like Vaisali, Pataliputra, Kusinagara, Sravasti and Kausambi. These municipalities linked through overland circuits in the Himalayan foothills and the Nepalese *terai* almost certainly experienced a decline. But this though does not suggest a common decline of all biggest urban centers. Some municipalities of early historical times did continue beyond AD 600, apparent from accessible archaeological materials. Therefore Ahichhatra, originating in the early historical times, offers an unbroken sequence of job right into the early medieval stage. No desertion of the location is noticeable at the Purana Qila location in Delhi which sustained uninterrupted flanked by the Kushana and the Turkish rule. Archaeological remnants of the post-Gupta stage are accessible from Atranjikheda, a leading urban center of early historical times. Likewise the excavations at Rajghat close to Varanasi clearly illustrate the stability of job at this urban centre throughout AD 300-700 and 700-1200 stages. Remnants of buildings at Ahar have been dated to the era flanked by ninth and twelfth centuries, implying thereby the subsistence of an urban centre.

The regular mention of *pura*, *pattana* and *nagara* in inscriptions of early medieval times also point to the urban custom. Few new urban centers also came up in north India in the early medieval era. Ten inscriptions, ranging in date flanked by AD 867 and 904, speak of the burgeoning municipality of Tattanandapura. It was also recognized since a *pattana* which clearly distinguished it from rural settlements like a *grama* and a *palli*. Its well laid out character is apparent from the references to its little or narrow lanes, wide roads and *hattamarga*. The *pattana* also had *avaris* or shops and *grihas* or residential buildings. An *avari* or shop is clearly mentioned to have consisted of three burnt brick rooms. Burnt bricks were also used for the construction of *grihas* or dwelling homes. The impressive mass of the urban centre of Tattanandapura is unmistakable since it covers an region of 3800 acres. At Siyadoni, already discussed in the context of *mandapikas*, one encounters *aparasaraka*, *avasanika* and *grihabhitti*. That there were many *hattas* in Siyadoni has already been pointed out. Another city lived at Gwalior under the name Gopagiri or Gopadri. Inscriptions indicate the attendance of significant royal functionaries like the *kottapala* and *baladhikrita* at Gopadri where *sresthis* and *sarthavahas* also were active.

At several of these new *pattanas* or *puras* one notes the active role of several craftsmen: oilmillers, florists, and distillers. At these centers lived significant shrines where converged merchants, officers, craftsmen and religious personalities. Therefore these centers often combined economic, political and cultural functions which rendered them with considerable complexities since urban regions. We have already pointed out how few of the *mandapikas* in north India assumed urban character. The transformation of Naddula from a village to a *nagara* and then finally since the political centre of the regional Chahamanas rulers has already been discussed. Deal looks to have played an significant role in the creation of Naddula since an urban centre. In eastern India, the early

historical municipality of Pundranagara, represented through the remnants at Mahasthangarh, does not indicate any discontinuity in its urban customs in the early transitional ages. Moreover, a some new municipalities also came into subsistence in early medieval Bengal: for example, Ramavati—named after Ramapala, recognized with the location of Amati; the municipality of Lakhnauti, mentioned through Minhaj-us Siraj was located in Gaur and recognized through and named after Lakshmanasena, the late twelfth century Sena king of Bengal. These data may not portray widespread de-urbanisation in north India, particularly throughout the AD 600-1000 stage.

Besides the empirical reports on early medieval urban centers another point needs serious consideration. The principal factor behind the assumed decay of municipalities seems to have been a slump in extensive-alloofness deal after AD 500. The historiography of Indian feudal formation also suggests that after AD1000 there was an urban revival in north India. It is implicitly indicated that rising Arab deal with India favoured the spurt in urbanism after AD 1000. In other languages, the development and decay of urban centers of early India, from this point of view, are explained in conditions of external deal of India, in other languages, in conditions of few external stimuli. It is motivating to note that the genesis of early historical urbanism is sought in the availability of iron technology and the resultant agrarian surplus. In other languages, commerce including external deal is not projected since the primary reason for the emergence and proliferation of urban centers in early historical times. But the decline of the similar municipalities is explained in conditions of the assumed slump in deal. If agrarian development is measured conducive to municipality formation then there should be logically no hindrance to it in early medieval times also. There is an overall agreement in the middle of scholars that the early transitional ages witnessed unprecedented agrarian expansion in India. This would facilitate the availability and procurement of the basic agrarian surplus which is a biggest pre-requisite for municipality formation in early India. Hemachandra, the well-known Jaina author of late eleventh and early twelfth centuries, observed that the villages often resembled municipalities. A typical case in point could have been in this context the village of Naddula in Rajasthan. Either few early medieval villages became big sufficient in region to have assumed an urban appearance, or agrarian expansion paved the method for greater concentration of population in few villages which consequently underwent a transform in their character. It has been rightly observed that several urban centers of early medieval times were strongly integrated to their respective regional or local roots. On the other hand municipalities of the early historical times grew most through following the pattern of municipalities of transitional Ganga plains. Transitional Ganga plains therefore played the role of an epicenter to early historical urbanization. Early medieval municipalities had no such epicenter. This gave them a distinctive character; that is why

municipalities of early medieval times are idea through few scholars to have belonged to the third stage of urbanization in India.

EXCHANGE NETWORKS, MERCHANT ORGANISATIONS AND URBANISATION: SOUTH INDIA

Market Centres, Deal Networks and Nomadic Deal

Early medieval urbanisation illustrates a phenomenal augment and proliferation of urban centres of relatively modest dimensions. These are the market centres, deal centres which were primarily nodal points of the swap network. The range of interaction of such centres varied from little agrarian hinterlands to local commercial hinterlands and to inter-local contexts and contexts beyond the borders of India. Though, through and big the early medieval urban centres were distant more rooted in their local contexts than the early historical urban centres. The require for marketing facilities and growth of regional swap brought into subsistence market centres, which were points of swap for a specific area or little agrarian hinterlands. This is best illustrated through the *nagaram* of South India, substantial proof of which comes from Tamil Nadu and to a limited extent from Karnataka and Andhra area. It served since the market for the *nadu* or *kurram*, a peasant area of Tamil Nadu. Few of them appeared due to the swap requires of the *nadu*. A fairly big number of such centres were founded through ruling families or were recognized with royal sanction, since for instance under the Cholas. They were named after the rulers, a characteristic general to all areas in south India, with the suffix *pura* or *pattana*. *Nagarams* situated on significant deal circuits and at the points of intersection through nomadic traders urbanized into big cities, both in conditions of their mass and volume of deal and commerce. They were ultimately brought into a network of intra- local and inter-local deal since well since overseas deal by the nomadic merchant organisations and by royal ports and royal interests in and policy of fostering extensive aloofness deal. Such a growth occurred more or less consistently during peninsular India from the 10 century AD when South India was drawn into the wider South Asian deal, which was revived in the 10 century and in which all the countries of South Asia, China and the Arab countries came to be involved. Flanked by the 10 and 12 centuries AD South Asian deal provided the impetus for the growth of commodity manufacture and swap, development of cities, both interior and coastal. The *nagarams* of the Tamil area connected the ports with political and administrative centres, which were consumer points and with the craft centres in the interior. The movement of the nomadic traders played a biggest role in this network.

Biggest craft centres which urbanized in response to inter-local deal were textile and weaving centres in all the three civilization areas of south India—Karnataka, Andhra and Tamil Nadu. Few of the craft and commercial centres of the early historic era survived till the early medieval era and were

brought into the procedures of re-urbanisation which connected them with the new socio-economic organizations of the era.

Local Growths

Dissimilar stages of urban centres urbanized in South India. Though, these varied from area to area in their function and importance since also their connection to superior swap networks.

Deccan-Karnataka

In Karnataka the *nagarams* served dissimilar functions since points of swap in trading networks and since regular markets for agrarian/peasant areas. Though, the uniform characteristic in all such *nagarams* is that they either had or acquired a vital agricultural hinterland for the non-producing urban/craft/deal clusters livelihood in such centres. Markets in these centres were controlled through traders headed through a chief merchant described *pattanasvami*, the lord of the city.

In Karnataka, the steady augment in cities from the 7 to the 12 centuries illustrates a proliferation of commercial centres with a concentration of such centres in North-West Karnataka, Konkan coast and the commercial districts of Bijapur, Dharwar, Belgaum and Shimoga. In the deal with the west i.e., Arabia, Persian Gulf and beyond, the west coast of peninsular India played a uniformly dominant role even from the early historical era. Many ports such as Thana in Maharashtra; Goa; and Bhatkal, Karwar, Honavar and Mangalore in Karnataka urbanized throughout the revival of extensive aloofness deal flanked by the 10 and 12 centuries, with proof of coastal shipping and ocean navigation. The exploit of money on a big level in commercial transactions was usually on the augment during south India throughout this era, particularly in the Deccan and Andhra areas.

Epigraphy being the biggest source of information, mainly studies has relied entirely on inscriptions for categorizing and locating the kinds of cities which appeared in several areas. In Karnataka, the conditions used for cities of dissimilar kinds are *Rajadhani*, *nelevidu* and *pattana* or *nagara*. While *nelevidu* was generally the headquarters of a regional/provincial ruler, *pattana* or *nagara* refer to commercial cities. Few indication of the nature of city scheduling and environment is accessible for Venugrama or Velugrama, the present Belgaum, where distinct quarters lived for foreign and regional merchants. Belgaum was ancient Venugrama with early Jaina associations. It is said that Belgaum provided for 4000 “burghesses”, almost certainly not the medieval European kind

of burghesses, but for many villages of the area, which provided for the agricultural and trading necessities of this municipality. That such municipality also had *geris* or quarters for several artisanal and trading societies is also attested to through the epigraphic records. Big urban centres like Belgaum had migrants from other areas, such since Tamil Nadu, Kerala and Lata or Gujarat, Bengal and even Kashmir and Ahichchhatra in Uttar Pradesh. Several of these cities e.g., Lokkigundi and Belur were also frequented through the Ayyavole merchants.

Transport and communication were facilitated by construction of roads in North-West Karnataka, where Terdal, Lokkigundi and Belgaum appeared since significant deal centres. Highways and Trunk roads came up linking Karnataka, Andhra and Tamil Nadu and earlier deal circuits survived well into early medieval times. On the northern and southern banks of the Kaveri, in its transitional reaches arose a number of swap points flanked by Karnataka and Tamil Nadu such since Talakkad and Mudikondan.

Wider deal networks also lived flanked by Karnataka, Andhra and Tamil areas. The attendance of Kannada, Tamil and Telugu merchants is well attested in many cities such since Belgaum, Peruru and the coastal cities of Visakhapatnam and Ghantasala in Andhra. The Andhra coast concentrated on the South-East Asian deal with Motupalli, Visakhapatnam and Ghantasala acting since biggest outlets. Market cities of inter-local importance are represented through spaces like Nellore, Draksharama, Tripurantakam and Anumakonda in Andhra Pradesh.

Guilds

The Merchant Guilds of medieval south India comprised several clusters and the Karnataka inscriptions mention the settiguttas, nanadesis, banajus, virabananju, mahanagara, ubhayananadesi, mummuridandas, tanda, nakhara, nadu settis, paradesigalu, sthanabanajigar, muvattarum-bidina settiyaru, astadasapattanigar, nadus, gavares, gandhigas, gatrigas, nagara mahajana, vaniga mahajana, samasta-desi, biradar, etc. It is not clear since to whether they were a regular section of the guilds or regional clusters, who were occasional participants in the nomadic deal which moved by the dissimilar areas of south India.

A fair number of references to guilds happen in Karnataka inscriptions such since the sreni, kottali, samuha, samayengal, hittu or pittu, and okkalu which seem to be agricultural guilds. The Ugura 300, kuruba senigas, tambuliga, gale 300, billa 300,, medaru, mottakara, bamboo makers, bojangas, aravattu okkalu point to the subsistence of professional or occupational clusters possibly since organised craft clusters within a resolution. Though, superior intra-local organisations of craftsmen also begin to seem in the inscriptional records such since the guilds of telligas, gottali, jagati samayengal or pattasaligar, artisans, goldsmiths, carpenters, chippiga gottali, jeda kottali,

stone cutters, kanchagara gottali, beruttambar, kammata, gana okkalu, gana mettuvaru. It would hence be reasonable to infer that there was a gradual diversification of manufacture behaviors and craft manufacture was being recognised since economically significant and their groupings necessity have enabled the procedures of production and deal in which the merchant organisations look to have promoted such specialization and diversification.

The guilds acted by the pattanasvamis or vaddavyavaharis. The guilds look to have crystallized since sub-castes. In the middle of the largest crafts mention may be made of oil mills, sugar cane, betel processing, salt manufacturing, bamboo working, creation metal images of deities, musical instruments, lamps, vessels etc. related to temple and rituals. The textile industry looks to have been the mainly flourishing, the maggadere or loom tax being general in all sections of the Deccan, such since the Hassan, Kadur, Bangalore, Mysore, Shimoga, Chitradurga and Raichur districts. Innumerable diversities of cloth are recognized such since patta, sire, cotton, teresire, hodake, nulu, utama ponbatte, kuttida nulpatta dara patta, puttiya patte, sattigeya hanjara and therefore on. The Spinning procedure is recognized from the detailed references to the wheel, spindle and lower planks. Perfumery and incense production is mentioned in the Manasollasa, which also refers to leather job for seats, jewellery, gold smiths, and silver-smiths and bangle creation. Carpentry, Pottery, Tailoring, Smithy and Dyeing were other occupational behaviors separately from the art of Sculpture and other Fine Arts.

Minting

Minting, especially of the die-struck coins, was made through the *kammatakaras*, while the *savukattukaras* trimmed the coins into uniform form and mass and weight in spaces like Sudi, Gobbur, Balligave Lakkundi, etc. No regular banking and credit were followed for money lending did not discover much favour with people. Deposits were made generally with the temples and the interest was utilised for worship. Therefore the temple's role in commercial behaviors was significant. Interest was invariably in type, particularly paddy, although money interest was not strange. Annual interest often accumulated since *toduvaddi* paid in the shape of *pana*, *haga*, *visa*, or *bele* and the principal being in the shape of *gadyana*, *pon* or *hon*.

The marketing services were provided through the merchants and vendors in weekly fairs held through the *pattanasvamis* and others since an act of *dharma*. In the middle of the shops the privileged ones were the *manyadangadi* and temple shops or *devarangadi*. Others like the *karadangadi*, *angadimane* or *mali* symbolize the wholesalers. Commerce, inter-local and intra-local, and pilgrimage added to the proliferation of cities and deal centres and at the apex of the urban hierarchy stood the *Rajadhani pattanas* like Kalyani and Dvarasamudra. Arasiyakere and Balligave

were commercial centres which also served since administrative centres. Notable in the middle of the inland cities were Paithan, Ter or Tagara, Kalyana, Nandgad, Valaipatna, Pandiyur, Kuduregundi.

Coastal Deal

Trans-oceanic contacts were on the augment and ports like Bhatkal, Basrur, Barakur, Karwar, Honavar, Kasargod, Kumbala, Mangalore, Sirur, Sadasivagad, Malpe, Ankola, Mirjan urbanized on the Konkan and Kanara coasts. Honavar was one of the biggest ports. There was regular coastal traffic and periodical extensive aloofness traffic for the unloading and collection of goods at the coastal cities brought into better ports like Honavar. Kasargod was of greater importance for Muslim merchants. Mangalore was the major city for Arab travelers.

Arab writers refer to articles of export such since rice, pepper, silk, coconut, bananas, teak, aloe, amber, bamboo, camphor, cardamom, cloves, mango, sulphur and myrobalan. Marco Polo lists the imports such since copper, brocades of gold, silk, and drugs. Horses, elephants, pearls, cloth, musk, and sandal from Gandhara, Turushka, Simhala, Chola, Magadha, and Maleyala were other significant items of deal, if one were to take the inscriptions of the nomadic traders into consideration. Commodities like teak, coconut, spices and textiles are establish in one of the mainly impressive lists in an inscription of AD 1204 from Belgaum, which witnessed a biggest convergence of several kinds of merchants in north Karnataka. Items of deal also incorporated regular consumer goods like paddy, rice, black pepper, asafetida, green ginger, turmeric, betel leaves, areca nuts, coconuts, palm leaves, grass, sugarcane, coarse sugar, plantains and myrobalan. It is not clear which of them were transported through coastal crafts. The coastal network for deal in both agrarian products and manufactured ones separately from luxuries was brisk and impressive.

The Konkan Coastal Deal and Voyages

Foreign deal received a setback especially after the decline of maritime deal in the early historical era. Conventional narratives refer to deal circuits, commercial centres, and professional bodies of merchants but much less are recognized in relation to the coastal networks, which look to be rarer. It was only after AD 1500 that the importance of the Indian Ocean in Asian and Transitional eastern deal looks to have been recognised. For instance, the Konkan coast, former Aparanta i.e., the Maharashtra coast and its importance is recognized to classical sources. Though, the interlink ages flanked by the ports of northern and southern Konkan are not clearly recognized in the early era. The term Konkana becomes more prominent only in the early medieval era. Kamkam in the Arabian texts is invariably equated with the kingdom of Balhara i.e., the Rashtrakutas. The distinction flanked by

north Konkan and Tulwan was not recognized in the 4 and 5 centuries AD. From the Badami Chalukya era interest in controlling sure sections of this coast increased especially after the conquest of Lata through the Chalukyas. Henceforth coastal linkages flanked by the northern Konkan coast and the Gujarat- Kathiawad coasts urbanized and coastal voyages became regular.

The early medieval era witnessed the emergence of more and newer ports in the Konkan littorals than in the early historical era. A great number of ports on the Konkan coast seem from the 9 century AD which are mentioned in the Arabic and Persian sources. Kolhapur is recognized from the Jewish letters of merchants since a significant business centre. A number of harbors from north to south are mentioned such since Samyana/Sindan, Srasthanaka, Cemuliya/ Saimur, Nagapura, Balipattana Gopakapattana/ Gove the Arab sources. Gove of the Kadambas was an significant port and capital.

Arab explanations such since those of Sulaiman and Ibn Khurdadbeh provide motivating facts in relation to the trading network connecting Konkan and Malabar and with Cambay, corroborated through the Persian geographical text *Hudud al Alam*. Surparaka i.e. Sopara close to Mumbai was also recognized to foreign explanations. The extensive coastal voyages from Konkan by Malabar to Srilanka recognized links with the interior trading and craft centres. Hence the Silaharas, the mainly formidable domination on the Maharashtra coast, tried to set up secure manage in excess of the entire Konkan coast.

Till the 11 century AD the ports of north Konkan were more significant, but from the 11 century the situation changed with the southern Konkan ports also becoming prominent, particularly Balipattana mentioned in the epigraphic records of the Silaharas. Coastal voyages flanked by Balipattana and the region approximately Goa linked Chandrapura and Cemuliya to Balipattana. Balipattana was the point of convergence of vessels close to Goa and those from the north of Balipattana. Exemptions were given to encourage commercial links with the two significant harbors north and south. The growth of coastal deal in the northern sector of the Konkan littorals, with Balipattana in a more prominent location, seems to have resulted because of the gradual spread of agrarian settlements, diversification of crops, proliferation of crafts and development of commerce in Karnataka throughout early medieval times.

Sindapur, which had secure relationship with Goa, is recognized from the navigational manual of Arabian navigator Ahmed ibn Majid. Under regional Kadamba rulers Gopakapattana, Gopapura and Gove m Goa to Kolhapur, Somanatha, on the Kathiawad coast i.e. from south Konkan to the Kathiawad coast via Thana in the 11 century, to Arab Muslim merchants rescuing a Kadamba ruler from shipwreck and becoming even administrative heads in Goa point to its importance. The term *Nauvittaka* interchangeable with the Arab *nakhuda* evidently refers to a ship owning merchant.

A *mijigiti* built through him was maintained through tolls at Goa from vessels from Gurjjara, Saurashtra, Lata, Konkan, etc.

Linkages flanked by Manjrur, a leading port in the northern section of Malabar and Kathiawad and voyages by Konkan coast to Gujarat, are attested through the Cairo Geniza records of Jewish merchants, which prove the role of Jewish traders in the deal with Aden. Tinbu a ship owner is recognized from a Jewish letter of AD 1145. Ships plying flanked by Aden and India had to encounter piracy on the Konkan coast. Tinbu's shipping business spanned from Manjrur to Tana beside the Konkan littorals. Early Indian merchants also participated in shipping enterprises but the data is meagre. The *Nakhuda* Mahruz Jacob brought a letter to his brother-in-law in AD 1145 from Manjrur, referring to the coastal voyage from Manjrur to Thana. Kanbaya also shaped a significant section of this coastal network and linkages with Mangalore and other ports in the Malabar littorals. Reference also to Mulaybaar and to Kollam designates that the voyages from Somanath in Kathiawad assumed considerable regularity from 11 century onwards.

The early medieval sources are silent in relation to the kinds of vessels which were recognized to the *Periplus* such since *Trappaga* and *Kottyamba*, which correspond to the references in the Jain text *Angavijja*. *Trapyaka* and *Kottimba* were coastal crafts, which necessity has plied from Cemuliya and Chandrapura to Balipattana. The picture in relation to the coastal crafts is hazy, textual and epigraphic references being meagre. Visual symbols on *Viragals* or hero stones in the context of battles and in the caves in Borivli, close to Bombay, illustrate little diversity of crafts made of planks sewn jointly. They may also have been used in the battles flanked by the Silaharas and Kadambas of the 12 century. Smaller boats carrying soldiers and big ones carrying passengers and cargo are referred to in the Jewish letter. Epigraphic data is accessible on a society of ship owning merchants in early medieval Konkan. The *Mahamatya* was a high ranking administrator, and under the Silaharas an administrator described *Vasaida* was also a *nauvittaka*. They combined commercial and administrative roles.

The monetary scenario does not look to correspond to the information on brisk deal due to the comparative lack of metal pieces from mid-8 century to the end of the 10 century AD. While the Rashtrakutas had no definite dynastic coinage, the Arabic *drammas* necessity has been in exploit. The Silaharas issued the *gadhiya paisa* kind i.e., silver coins. Gold coins seem from the 11 century. There looks to have been unhindered movement of merchants and merchandise beside the coast despite risks and uncertainties. Unlike the spirit of adventure involved in extensive aloofness deal, the journeys beside the coast were relatively more sedate and safer. There was stability in this traffic, although shifts and alterations even within the overall sedate nature of commerce in the Konkan coast, led to the emergence of newer ports like Balipattana. Sanjan under the Rashtrakutas was a well

recognized port in north Konkan. Linkages flanked by the Malabar littorals, Konkan and Saurashtra were unbroken from the early historic to the early medieval and well into the early contemporary times.

The Andhra Area

Swap networks urbanized in Andhra from the early historical times most due to the opening up of the peninsula to the north Indian trading routes. Both inland and maritime deal, particularly extensive aloofness deal with the western and South-East Asian areas stimulated the development of commerce and urban behaviors. On the contrary the early medieval urban procedures in Andhra were *sui generis* and were brought in relation to the through the agrarian expansion of the era comparable to other areas of south India. Craft manufacture and growth of cities and municipalities, including ports, were therefore built into the common socio-economic transformations of the era. The demand for luxury goods in addition to regular consumption of daily necessities led to the growth of industries such since metal industry. Mining for gold, iron, copper, brass and diamonds was done in many sections of the Deccan, while zinc and tin almost certainly came from Southeast Asia. Much of the information on the metal crafts comes from the 10 century onwards and more particularly throughout the Kakatiya era. The Kakatiya inscriptions refer to the Pancalohala Beharamu, a society named after the metal deal. Separately shape the royal families since the largest promoters of these crafts, the temples were recipients of gifts of jewellery and ornaments for the deities. The 16 century texts such since Vallabharaya's *Kridabhiramamu* and Srinatha's *Palanativiracaritra* and the Draksharama temple inscriptions mention the royal patrons and temples since the biggest consumers of such luxury items and provide the names of the ornaments. Copper and bronze images were produced for the temples and temple *rathas* symbolize the best of the carpentry job of the times, *ratha* becoming a significant processional chariot of the temple, especially from the post- Kakatiya era.

The second biggest industry of the Andhra area was the manufacture of oil, gingerly being the mainly general in the middle of the oil seeds. Manufacture of sugar and jaggery was also a significant craft well attested in inscriptions. Later date epigraphic records confirm the growth of these crafts and through the Vijayanagara era they attained significant proportions. Textile industry was, though, the foremost in medieval Andhra with its substantial black soil cotton producing regions occurring in the entire area. The best and delicate fabrics of Andhra were recognized to Marco Polo and other medieval travelers. Other manufactures incorporated salt manufacture, etc.

The artisan society of blacksmiths and metal workers recognized since the Pancanamuvuru existed in distinct quarters and grants of land to these societies were general. They also participated

in gift giving and construction of *mandapas* etc. in temples. Oju, a suffix to the names of artisans/architects who built temples, was general even from the 7 century onwards. A later *prasasti* of the artisan society establish in a 15 century inscription from Amaravati refers to the origin of the *Pancananamuvaru*.from the legendary Visvakarma.. The Panchalas of Karnataka also traced their descent from Visvakarma, the celestial artisan who was well versed in the *Sastras* and *Puranas*. More elaborate *prasastis* occurring in the Vontimetta inscriptions define them since the refuge of the entire world and since the lords of Vara Pemdota with their own banner, musical instruments, golden palanquin, sword, fan, crown etc. The term Akkasale also refers to the artisanal society.

The corporate behaviors of these societies are bigger recognized only from the inscriptions of the 14 -15 centuries. They incorporated goldsmiths, silversmiths, blacksmiths, carpenters, stoneworkers and painters. An *inavari* levied on *rathakaras* of many *nadus* is recognized from many inscriptions. In Andhra, an undated inscription from Udayagiri records the remission of such taxes to the treasury of the temple. Even from the 13 century they have greater visibility in the Hoysala inscriptions of AD 1291 and 1342 from Bangalore district. Honours came to be conferred on them increasingly from the Vijayanagar era.

The Teliki Vevuru of Vijayavada was another organisation of importance and is prominently mentioned in inscriptions from AD 1071-1120 and such texts since the *Manuvamsapurana*. They had played a significant role even from the era of the Eastern Calukyas of Vengi. Subsequently *Dharmasasanas* were issued in their favour through kings who were pleased with the society. The Teki plates of AD 1084 refer to the *Telukule settis* of dissimilar spaces and the honours conferred on them. The Bapatla inscriptions of AD 1163 and 1164 record their gifts of gold for lamp to the Bhavanarayana temple underlining their corporate character since a *samaya*. The Nadendla and Bezwada inscriptions include *prasastis* giving them a high status. They were also regarded since *Calukyarajyamulastambhayamanulu*, i.e. generals of the army.

The 11 -12 centuries symbolize a era of moderate extensive aloofness deal behaviors in Andhra. For this it is claimed that the political atmosphere was not conducive. But internal deal was prevalent on a limited level. Merchants often acted since bankers, for instance Chanda Bhima Poti *setti* acted since a banker to Velanati Kulottunga Coda Gonkaraju. Capitals of subordinate chiefs and chieftains such since Vengi, Gudimetta, Nadendla, Dharanikota and Nellore attracted merchants. In the middle of the temples fostering deal were the five *aramas* since also Mallesvara at Bezwada and Mahasena at Chebrolu which were centres of pilgrimage. Pilgrimage centres incorporated the more well-known Simhachalam, Bapatla, Ghantasala Srisailam, Ahobalam and Tirupati. In the 11 -12 centuries cities grew approximately such temples. The Lords of Penugonda, Tamil merchants and merchant organistaions in Andhra including the 500, Manigramam, Anjuvannam were fairly active.

Though, a spectacular development under the Kakatiya king Ganapatideva opened a new epoch in the deal of Andhra through encouraging sea- borne deal and through renovating the port of Motupalli, Guntur district and through issuing an *abhaya sasana* for all foreign merchants. This led to freedom from oppressive taxation and from piracy. Fixed duties on articles of deal such as sandal, camphor, pearls, ivory, silk, thread, coral and spices enabled regular movement of goods and merchants. The means of communication were also improved. Marco Polo refers to this port since Mutfili. The Motupalli inscription of AD 1244 records both the imports and exports of this city.

The common prosperity of the Vaisya society from this era is reflected in the *Vaishya Purana*. Penugonda and 17 other cities constituted the original habitat of Vaishyas of 714 *gotras*, each with a *nakaram* with a *nakarasvami* at its head. Komatis, the traders, on whom stories abound in the *Vaishya Purana*, are an significant cluster mentioned also in few inscriptions from Ghantasala. Studies on the economy, community and polity in Telingana throughout the 11 -14 centuries have increasingly shown that Telingana was a biggest area of deal potential under the Kakatiyas, in whose era this relatively arid and lake irrigated area was consciously urbanized by agrarian expansion and organised deal. Later it was this procedure which enhanced the importance of Andhra since a entire in the interregional and extensive aloofness deal networks, due to royal policy of encouragement and patronage.

Professional clusters also figure in greater frequency in epigraphic and literary sources since craft manufacture increased and was further diversified in this era. Crafts clusters are referred to since *Panchalohadhipatilu*- workers in five metals- gold, silver, copper, tin and lead, *Salivaru*-weavers, *Vaddavaru*-stone cutters, *Kase*-mason, *Vadrangi*-carpenter, *Kammarilu*-blacksmith, *Kummarilu*- potter; *Musaravaru*-persons who production and sell crucibles and *Telikivaru*-oil crushers and *Akkasalavarau*-goldsmiths. They were socially and economically well recognized in the Telingana area in the 12 century since followers of hereditary crafts and since an organisation of crafts clusters looked after the redistribution of the manufactured items. Works like the *Kridabhiramamu*, *Prataparudracaritra* and *Siddhesvaracaritra*, written after the Kakatiya times, possibly in the 15 -16 centuries create references to several craft clusters or societies like the Padmasale-cotton weavers, Pattunese *salevaru*-silk weavers, Visvakarmavamsajulu and others. Varieites of oil pressing devices such as *sempagenune* and *kranuganune* used through the *Teliki vevuru* are mentioned in the *Kridabhiramamu*, which also defines procedure of oil pressing through an ox tied to a beam. The similar job also refers to perfumed oil. The *Sutradhari* or architect was of considerable importance topping the list of the artisanal clusters and descendants of Visvakarma. Skilled in the structure of *prasadas* or *spaces*, well versed in the *Vastu Sastra* etc. the architects intended mansions and temples of the Nagara, Kalinga, Dravida and Vesara styles. All artisanal

clusters followed their *Samaya Dharma* or society code of conduct, prescribing punishment just as to it for non- conformation to its code.

In craft manufacture, separately from those of agricultural implements, the creation of weapons, *Ganugu*—oil crushing machine, *maggamu*—wooden looms, bullock carts and boats were significant. The creation of armoury, jewellery and other luxury items, which demanded skilled and organised manufacture, also became significant. Notable references to *Vadrangulu* or carpenters who made furniture and ivory workers are also recognized. The dependence of craftsmen on agriculture is underlined through the information that in mainly cases they were given land for their service in a locality in lieu of payment. The augment and diversification of craft manufacture was a result of traders' interest in promoting manufacture of specific commodities for inter- local and extensive aloofness deal from the 12 century and more importantly throughout the Kakatiya era. This looks to have attained greater autonomy from the agricultural associations moving towards a more monetized swap organization. Though, monetisation was usually on a low key till the Vijayanagara era.

These procedures are reflected in the growth of weaving since the biggest craft. The *Salivaru* were both manufacturers and traders in cloth. Diversities of cloth are recognized from such texts since the *Simhasana Dvatrimika*, *Haravilasamu* and *Basava Puranamu*, which refer to printed cloth, silk and wool. More than 37 diversities including Chinese silk and intended and patterned cloth are mentioned. The association of weavers was described *Saliyajanalulu*. The advance in the circumstances of the artisans is indicated through the *Macherla* inscription of the 12 century.

Organised deal and greater interaction flanked by the traders and artisans also meant the introduction of greater government manage in excess of it by traditions and tolls with administrators like the *Sunkadhikarulu*, *Sunkaverggade* and *Nayaka* monitoring the movement of deal. All *angadulu*, *angadi veedhi*, or *hatta margas* since also the *Santas* organised through merchants beside with the *Santa nagaramu* came under supervision and a distinct tax described *addavatta sunkamu* came to be levied.

The Warangal fort inscription AD of 1228 records gifts of *ayamulu* made through dissimilar deal organisations. Prices of average commodities were set and were not allowed to undergo fluctuation. The *Sakalaniti Sammatamu* advises the king not to allow the merchants to trade in foreign items if they augment the price of articles even when the king buys them, to punish merchants who attempt to enhance the rates arbitrarily. Cheating in weights and events was checked through the movement of spies of the king. The *Motupalli* inscription was an *abhaya sasana* attempting to standardise levies on deal, at least external deal. The earlier *Panugal* inscription of AD 1124 provides details of *Siddhayamu* and also *angadi sunkamu* or *malige sunkamu* and how they are

to be composed. The Motupalli inscription of AD 1244 records articles of import and export and few of the items of deal was *Kari, turaga; kanaka, ratna*, corals, copper, zinc lead, and silk thread etc.

The *Nagarmu*, a regional organisation which regulated regional deal was not same to the self-governing organisation described *nagaram* in the Tamil area under the Cholas. It was an integral section of the *astadasapraja*, in which are listed the *mahajanas, nagaramu, kampulu*, and *balinja settis*. The distinction that is made flanked by the Telugu *nakaramu* and Arava *nakaramu* in the Peruru inscription may though indicate the attendance of two clusters the Tamil *nagaram* and the Telugu *nagaram* in that centre.

The trading society was recognized through conditions like the Vaisyajanal and Komatis. The Komatis were best recognized since grocers, merchants and money lenders since referred to in the 16 century *Vaishya Puranamu*. The *Settis* and Komatis were associated with the *dasabandha* grants of land and maintained gifts to temples. The superior guild organisations such since the *Ayyavole, Pekkandru, Nanadesi, Paradesi, Ubhaya Nanadesi* and *Svadesi* have their own *prasastis*, such since the *Ayyavole* and *Pekkandru* in Telingana. There were traders specializing in the sale of scrupulous commodities like areca nuts, perfumes, betel leaves and therefore on. With a well organised internal building recognized from the Alampur inscription of AD 1303, a gradation of status and titles, depending upon the nature, items and volume of swap, was upheld. Few held posts of administrative importance, e.g. the office of *Bhandagaradhyaksha* held through a *setti* is mentioned in the text *Haravilasamu*.

Coins such since *mada, gadyana, cinnamu*, and *visamu* are assigned to the Kakatiyas and king Ganapatideva is credited with coins bearing the legend “*dayagaja Kesari*” and the symbol of boar since the emblem of the Kakatiyas.

The Kakatiya era is marked through greater intensity of urban procedures and hence many cities appeared with the suffixes *puri, nagaram* and *pattana*. It was not the mere attendance of crafts and deal but also most the attendance of guilds that marked the cities. Such centres of production and swap are often mentioned only in the 15 and 16 century literature. Categories like temple cities, royal cities or political centres can be recognized where the mainly general economic action related to production and swap. They were also centres of surplus appropriation. The temple’s wealth and economic behaviors involved dissimilar professional clusters, the temple on behalf of the spatial context for urban development, especially those in large pilgrim centres. In political centres the concentration of wealth, accumulation of surplus and its redistribution to dissimilar functionaries of the state created urban legroom. Prior to the 11 century, though, craft and deal remained localised.

Hanumakondapura, the political seat of the early Kakatiyas, became a large commercial centre due to its strategic site. From the 10 –11 centuries, under the Chalukyas of Kalyani and later

under the Kakatiyas, royal stimulus led to the development of such centres. Peruru in Nalgonda district was another city and a port in the 11 century. From the 12 century, due to a conscious royal policy of encouraging deal and the movement of nomadic merchant clusters, the pace of urban development increased. The mass and intensity of deal and craft action is reflected in the number of cities with Orugallu, the Kakatiya capital at the apex of what may be described a hierarchy of urban centres. The capital had the earliest fort recognized to south India with a temple and vast tank all of which are called in the 15 16 century literary works, the *Kridabhiramamu*, *Prataparudracaritramu* and *Siddhesvaracaritramu* on the glory of the city. Also recognized since Ekasilanagaramu, it had dissimilar quarters such since the *akkalvada* and *vesyavatika*, and for the *Telikis*, *kampulu*, *madaras*, *moharis* etc. who were organised caste wise with a largest street and bazaar leading to the Rajamargamu or royal highway. Brisk deal, mobile population such since travelers and visitors, circuits to other cities and craft manufacture and commercial centres made Orugallu the leading municipality.

Other centres with charactrasation of both rural and urban centres and full fledged commercial centres such since Polavasa Pattana, capital of the Polavasa chiefs and subordinates of the Western Chalukyas, attracted nomadic deal bringing the Ayyavole 500, Ubhayananadesi, Mummuridandas and others. Many cities appeared in the Karnataka and Andhra areas, of which Alampuri, Magatala Govindapuram, Marutadu, Panugallu in Nalgonda dist, Motupalli in Guntur district and others in the Khammam, Mahbubnagar, and Karimnagar districts are also recognized. The economic location of traders and craftsmen not only improved substantially but also changed due to the emphasis on commodity manufacture from the 13 century, leading to new links with wider networks of south Asian and other neighboring areas, which intensified under Vijayanagara.

Kerala

Kerala urbanized contacts with the west and foreign traders like the Jews, Christians and Arabs were given trading cities under royal charters. Other coastal cities appeared such since Kolikkodu, Kollam etc. which became entrepots of south Asian deal. The Anjuvannam was a trading organisation more often met with on the Kerala and Kanara coast in the 9 -10 centuries and even later, the Hanzamana of the 15—16 century inscriptions in South Kanara almost certainly on behalf of the *Anjuvannam* of the early medieval times. The site of such trading clusters and of Arab horse dealers from the Malaiyala area enhanced the importance of the coastal cities in Karnataka and Kerala, since also the attendance of the Ayyavole referred to in an inscription of Sultan Battery close to Kozhikode.

The Tamil Area

It is in the Tamil area that the procedures of the growth of early medieval economy, particularly trading behaviors and urban growth are best illustrated in the rich epigraphic records of the Pallava-Pandya and Chola eras. Starting with the systematic growth of an agrarian order by organizations like the *Brahmadeya* and the temple throughout the 6 -9 centuries, the emergence of the *nagaram* since a marketing centre for the peasant areas described the *nadu* met the swap requires of the *nadu* since a peasant area, which not only assisted in the swap organization of the *nadu* but also acted since a meeting point for the inter *nadu*– swap and inter local swap. Subsequently it also enabled the movement of goods in extensive aloofness deal accepted on through nomadic trading organisations. It was a gradual expansion of a trading network for which the Tamil area gives the mainly significant proof in dissimilar stages. However not all such *nagarams* became biggest urban centres, several of them situated on deal circuits and sharing points intersecting with the nomadic deal of the Tisai Ayirattu Ainnurruvar, Manigramam and Anjuvannam evolved into large cities and municipalities separately from the capitals and ports of the ruling families. All these centres came to be connected by a big swap network into a web of commercial action with the west Asian and south Asian and southeast Asian areas, where the inscriptions of the nomadic trading organisations seem from the 11 century AD. The urban centres which urbanized since a result of rising nonagricultural or craft manufacture and deal had the *Brahmadeyas* and temples, separately from royal centres, since their focus and arose in nodal points. Few of them urbanized from groups of *Brahmadeyas* such since Kudamukku-Palaiyarai in the Kaveri delta, Kancipuram in the Palar-Ceyyar valley and Ambasamudram in the Tamraparni-Ghatana valley. They are mostly multi-temple or pluralistic centres, each temple marking the development of the city and its economic importance. Others were sacred and/or pilgrimage centres with vast temples, which attracted deal and commercial behaviors. The ports like Mamallapuram, Kaverippumpattinam, Nagappattinam were royal ports conspicuously promoted through royal patrons, where proof of extensive aloofness deal is marked through the attendance of foreign mediators and royal functionaries interacting with each other. The swap of embassies with China through the Chola rulers and the abolition of tolls, structure of religious organizations like the Buddhist vihara at Nagappattinam were acts of deliberate royal policy for promoting deal. The Chola royal expeditions to South-East Asia, especially Srivijaya also were aimed at creating facilities for the south Indian traders, whose attendance in these areas and since distant since China was commercially significant.

The rural-urban continuum is best illustrated through urban procedures in the Tamil area where the economic behaviors of the *Brahmadeya* and temple centres, marked urban development in the core areas with the emergence of groups of *Brahmadeyas* and temple centres. Few of them were

administrative centres and hence political procedures and/or commercial importance also added to the urban character of these centres. Such core areas were Kumbhakonam, Ambasamudram and Kancipuram. Few of the biggest *Brahmadeyas* expanded into pluralistic settlements and were made into Tankuru or Taniyur with an agglomeration of *pidagais* and *nagaram* and craft manufacture centres.

Nagaram

The proliferation of the *nagaram* kept pace with the augment in commercial action in three stages under the Cholas. The networks and centres model urbanized through W. Skinner for China has been influential in the studies of the Tamil *nagaram* through Kenneth R. Hall.

At least one *nagaram* per *nadu* has been recognized. The *nagarams* were potential centres of urban development, yet only those on deal circuits and in political and commercial centres grew into big urban centres. *Nagarams* became section of a wider network of inter-local and overseas deal from the 11 century. A unique characteristic of this network was the *Erivirappattanas* or chartered mercantile cities of the Tamil area. These were protected through armed mercenaries and begin to seem from the 11 century since protected warehouses and sharing centres for the nomadic trading organisations. Numismatic proof illustrates a incomplete monetisation of the economy from the 10 century and more significantly from the 11 century. Specialization in marketing and deal led to the emergence of organisations like the Saliya *nagaram*, Sankarappadi *nagaram* and Paraga *nagaram*. The *Vaniya nagaram* dealing in oil was a wider organisation of oil-mongers and was collected of merchants from several areas, comparable to the Teliki of Vijayavada in Andhra. Deal in horses, another specialised job, was approximately entirely in the hands of merchants from Malaimandalam during the medieval era. Deal in Arab horses was mannered most by the western ports from Gujarat down to Kerala and the Tamil area depended on Kerala merchants to procure and transport them. There was a secure nexus flanked by few of the crafts clusters such since weavers and trading organisations.

The joint donations of the Cittira Meli Periyanaadu and Tisai Ayirattu Ainnurruvar in many centres of deal have a special significance since marking the institutionalisation of the coming jointly since a forum through the agricultural guilds and commercial guilds in the 12—14 centuries to create special grants to the temples in such points of commercial action, when the Chola domination was on the wane or had already declined creating a new context in which such organisations were gaining greater importance in south Indian and south Asian deal.

Deal Circuits

Areas like Pudukkottai and Ramnatahapuram, Salem and Coimbatore place on ancient deal circuits linking Karnataka and Kerala with Tamil Nadu and further south to the Mannar gulf leading to Srilanka. Their commercial importance dates from the Sangam age, marked through the sharing of early Tamil Brahmi inscriptions and Roman coin hoards separately from Punch-marked coins. They sustained well into the medieval times and facilitated the movement of deal from the western coast to the eastern coast. The emergence of coastal cities such as Tiruppalaivanam, Mayilappur, Mamallapuram and further south the southern ports of Kaverippumpattinam, Nagappattinam, Tondi, Kayal and other cities on the Pandya coast would also indicate a coastal circuit.

Tondi was an significant coastal city where many merchant clusters like the Anjuvannam, Manigramam and Samanta Pandasalis entered into an agreement for the levy of sure taxes for endowments to the regional temple. The Kamudi and Piranmalai inscriptions of the 13 -14 centuries refer to 18 pattinams, 32 valarpurams and 64 kadigaittavalams, all of which indicate the rise of many cities, on behalf of coastal cities, fairs and market cities of dissimilar degrees of importance in the trading network of south India. In the Kongu area, in which Mudikondacolapuram was a biggest deal centre, many cities south and north of the Kaveri emerged with the rising movement of merchants, who made grants to regional temples. Perur was a substantially significant and big city where merchants with the title Chakravarti exercised great power.

Craft Manufacture

Regions of craft manufacture are hard to locate. Though, traditional textile and weaving centres have sustained down to contemporary times. Weaving since an industry was systematically promoted through the rulers of south India from pre-Chola times. Special care was bestowed under the Cholas on old weaving centres and encouragement given to resolution of weavers in new regions. There was several cotton producing regions close to which weaving centres emerged. But Kancipuram since the biggest centre received special attention from the Cholas. Madurai was equally significant.

Eventually Kanci came to symbolize the venue of the Mahanadu or corporate organisation of the weavers, which controlled the manufacture and marketing of cloth and its deal. Craft manufacture was more rigorous in the Kongu area, where 12 –14 century inscriptions indicate big-level artisan action and participation in significant civic duties, getting special privileges. Since interdependent economic clusters the trading organisations and artisanal clusters acknowledged their mutual benefits through the traders beside with other regional elite, conferring special privileges on

the artisans and giving special asylum to them. In Erode a refugee centre was provided through the trading organisations to the artisans in late 11 century AD. The Right and left hand division of caste/professional clusters also enabled the artisans to acquire gradual enhancement in status also through participating in gift giving and temple structure behaviors and consecration of images.

A series of salt manufacturing centres on the east coast from Marakkanam down to Vedaranyam in Umbala nadu also appeared under the Cholas. Though salt production was organised through the state and the state functionaries organised the revenues due from it to the regional temples. Salt was cautiously excluded from the *nagaram*'s jurisdiction, the *nagaram* exercising the right of fixing and assigning taxes on all commodities except for salt.

The Trading Organisations of South India

The trading or merchant society was usually recognized since the Balanjas, who claimed to be the protectors of the Vira Balanja Dharma or code of conduct and traded in the South Indian areas and beyond in the eastern countries such as Burma, Malaysia and Sumatra. In Karnataka the 500 Svamis of Ayyavole originating in Aihole in the 8 century AD, moved into other regions and through the 10 century seem in the Tamil area on the largest deal circuits. They acquired an elaborate ring of epithets like Ubhaya Nanadesi, Mummaridandas Ainnurruvar, and Svamigalu. Pekkndru, Nanadesi Pekkndru. An elaborate *prasasti* in the Tripurantakam inscription of AD 1292 adopts the usual pattern, tracing their mythical origin from celestial beings, praising the personal virtues of the members in glorious conditions, their high principles and honesty, conduct, to which Marco Polo gives additional testimony, their devotion to deities, respect to brahmanas, outdoing the brahmanas, social status, claims to mobility up to the Ksatriya and Brahmana status and their affluence and power.

Their behaviors increased through the 12 century AD, their attendance in several *nagaras* and *gramas* attested through their inscriptions in Bijapur, Belgaum and Dharwar districts. Even after the 12 century i.e., from the 13 century to the fall of the Vijayanagara empire their inscriptions are established in the Deccan and Andhra areas but with lesser visibility due to changes in the nature of deal and other entrants into the South Asian trading network. A graphic picture of their behaviors is established in the inscription of Belgaum, AD 1184, traveling through land and water, penetrating into several areas with their articles of deal like larger elephants, well bred horses, big sapphires, crystals, pearls, rubies, diamonds, lapis lazuli, onyx, topaz, carbuncles, coral, emeralds, karkketana, and several articles of lesser value. Separately shape hawking and peddling, they also had also long relations in foreign deal.

The Tamil merchants who described themselves *Tisai Ayirattu Ainnurruver* hailed from many sections of the Tamil area and played a significant role in overseas commerce especially with Sumatra and Burma. They made gifts of tolls to several temples in Andhra and the Tamil area. Separately from the luxury items like valuable and semi-valuable stones, they also traded in agricultural products like grain and gram and oil i.e. gingelly, cotton, yarn and cloth. Their power and role in the collection of tolls is conspicuous in the 12 13 centuries and more therefore in the late Kakatiya and post- Kakatiya eras. *Sunka* was the largest tax levied on items of several account composed at dissimilar centres of deal action. They followed the *Samaya Dharma* punishing those who went against the *Dharma* and rewarding persons for meritorious services and conferring honors/titles like “Prithvi Setti”. The *Mahanadu* of merchants often met in the *mandapas* of temples.

It is not simple to comprehend the nature of the connection in the middle of the dissimilar merchant guilds. Nor is it clear since to whether a hierarchy of such organisations evolved throughout the early medieval times. The Ayyavole 500 with their *Virasanas* looks to be the mainly significant of these organisations and could well have been at the apex of the nomadic trading bodies. That these merchant moved in clusters of trading caravans is also referred to through Ferishta and Ibn Battuta.

The inter-local movement of goods was controlled through these organisations and we discover the Ayyavole 500 in south Karnataka calling them the southern Ayyavole and the Tisai Ayirattu Ainnurruvar moving into the Andhra area frequently from the 11 century. Tamil merchants are visible in the deal of Andhra from the 11 to 13 centuries. Inscriptions refer to the Colamanadalamuna *vyapari* and the Visakhapatnam inscription of the era of Kulottunga I call the lay through the name Kulottungacola Pattana and Colapandya pura, where the Five Hundred and the Anjuvannam were present. The port of Motupalli, a trading emporium, appeared under Kulottunga, the Chalukya-Chola ruler and was promoted systematically under the Kakatiya Ganapati Deva, with his *Abhaya Sasana* of AD 1245. Ghantasala also recognized since Chola Pandyaapura was a 12 century *nakaramu*.

From the mid-twelfth century onwards there are definite indications of increased participation in foreign deal judging from the overseas imports in south India in the late 13 and 14 centuries AD. The Chinese deal missions to South India under the Yuan dynasty underline the importance of South India and its overseas deal in the Chola and post- Chola eras. Changes in the commodities of maritime deal from luxuries to requirements such since dyes, cotton yarn, textiles, processed iron, pepper, and horses become more prominent in Ayyavole inscriptions. How these goods came to South India for Trans—shipment and who the shippers were, are not recognized.

The guild inscriptions suggest that they sent their mediators quite distant abroad and recognized trading stations. Merchants had access to kings and the Chola invasions of Sri Lanka involved such interaction. The external policy of the Cholas was intended to favour the expansion of overseas deal interests from which both the Chola ruler and the merchant derived benefit. These expeditions were not for plunder and loot but deal figured since a significant factor in framing the Chola policy and the Chola rulers had links with the merchant society for mutual benefit. In northern Srilanka Chola inscriptions are establish from Mantai to Trincomallee, Polonnaruwa being the largest centre.

Chola job of northern Srilanka may have been a hurdle in the links of Srilanka with Southeast Asia, especially the Sinhalese links with Java and Bali. Srilanka was rich in valuable stones such since rubies, topaz and sapphire. Arab works like “*Ahbar since Sin wa’l Hind*”, a collection of travel stories, and that of Ibn Khurdadabih refer also to pepper, perfumes, musk, diamonds and valuable stones, aloes, gold and pearls, few of them like aromatics being imported to Srilanka. The Gulf of Mannar rich in pearls and Mantai in northwest Srilanka was the point of ingress for the Cholas, the latter being one of the great emporiums of the early medieval era comparable to Siraf on the Persian Gulf. Pepper was highly priced in China and in the west and the demand had grown in the 13 century.

The Chola and Southeast Asia deal links are attested to through the Nagappattinam records of the early 11 century and Kamboja’s gifts to Chola kings and the Chola missions to China. Rajendra’s expedition to Southeast Asia was a coastal voyage to *Kadaram* or *Srivijaya*. Chola raids were meant to “protect Indian commercial interests from interference through Srivijaya”. Like the Sung emperors of China or the rulers of Srivijaya in southeast Asia, the Cholas both solicited and sought to foster foreign deal and to set up trading rights for the Tamil speaking merchants in those regions. The Srivijaya inscription of Canton, if it has been interpreted correctly, provides a rare inside seem at the sub-surface diplomacy that preceded the commercial moves of the Cholas at Canton. Through AD 1088 the Ayyavole guild was recognized close to Barus in Sumatra. The Chola rulers were personally interested in distribution the profits of maritime deal.

Inscriptions from Piranmalai, Koilpatti, Tiruvarankuricchi, similar district, record the imports and exports. The goods mentioned in them contain arecanuts, pepper, myrobalans, iron, cotton, dense cloth, thread, wax, yak’s tail, camphor oil, civet, horses, elephants, camels?, aloeswood, sandalwood. In the Sung maritime deal the largest commodities were cloves, frankincense, gried galingale, abaca cloth, umbrellas, swords, bottle-gourd, edible date, medicinal rhubarb, slaves, peafowl, benzoin, putchuk, margosa bark, melons, gardenia flowers, coconut, cardamom, lacquer ware and a host of other things. General commodities in the Chinese and south

Indian lists are identifiable. Sandalwood and camphor were two articles of great demand in the Indian Ocean deal. Aromatics were also a significant thing since there was consistent demand for expendable, sacred items. Frankincense was the only thing coming from west Asia, while the bulk of the aromatics came from Southeast Asia.

The *Ayyavole* inscriptions mention a huge range of commodities exported from the Pandya kingdom. The Kayalpattinam and Tittandatanapuram inscriptions of 14 century on the east coast of Tamil Nadu refer to the trading organisations and stockists of goods, such as the *Manigramam* and *Samanta pandasalis*. In Andhra the Chintapalle inscription of the Chagi chief and the Motupalli inscription of Ganapati Deva refer to the similar local inflow and outflow of goods of maritime deal. The ramifications of this deal sheltered a wide spectrum of areas and commodities from China by Southeast Asian countries, Srilanka and south India to the west Asian areas. Further, the Gujarat coast, which connected mainly of the Indian deal with West Asia, had regular sea traffic connecting it with Hormuz and other central Asian areas and North China. South Indian merchandise also used this significant channel for its deal. Marco Polo refers to the importance of this deal to China in pepper, valuable stones and pearls. Ma'bar, the Pandya area, sent envoys to China and envoys from China reached Kollam, a biggest port on the west coast.

The overseas commerce primarily that of west Asia and Egypt and China, was most from west coast with Kollam since the biggest port. The Geniza documents and Jewish letters include impressive proof of the links with the Mediterranean areas- Italy, Sicily, Morocco and Lebanon.. The Egyptian corporate association described the Karimi dealt in pepper and spices. Through the 13 century they obtained their eastern commodities from Indian traders of Gujarat and south India throughout the Chola, Pandya and Kakatiya eras and also from the island of Sinhala. The Sung and later Yuan rulers of China encouraged this deal. The Indian subcontinent drew in gold, silver and copper in payment for several of its exports. In China payment in type was advocated. The Geniza documents illustrate that Jewish merchants trading with south India had to create payment in gold to offset their unfavourable deal balances. Spices to Egypt led to a consistent flow of gold to India from Europe and Egypt. But the horse deal was a biggest currency drain and this aspect of the outflow of gold from, especially in the post- Chola era, is an aspect of economy which requires more rigorous revise.

The commodities handled through Ayyavole and Manigramam therefore contain a wide diversity of goods such as textiles, iron, aloes wood, areca nuts and betel nuts, bdellium, camphor, civet, cotton and cotton fabric. Spinning and weaving technology were hence consciously urbanized and Southeast Asia became a biggest market for Indian textiles. The brisk deal in cotton is recognized from the Chinese explanations. Textiles were also a biggest export to the western

markets. Horses were always imported from Turushka, Kamboja and Yavana countries, although the rearing of horses was not understood in south India. The Motupalli inscription refers to several items. Iron and steel wootz was exported from several sections of south India. Indian steel out of which the well-known Damascus sword was made was one of the mainly significant exports from India since seen in the Geniza records. Musk, myrobaln, pearls, pepper, putchuk rose water, sandalwood, wax and honey and silk- diversities were also traded in, while Chinese silk was imported into Chola and Pandya countries.

Weavers, Textile Manufacture and Deal in South India

Textile has been the biggest craft in south India as the early centuries of the Christian period and sustained to be therefore till contemporary times. In the early medieval era this craft urbanized in several areas not only due to its importance for all strata in community but due to royal patronage, elite demands and requires of the temple, the focus of all economic behaviors.

Traditional centres of weaving have more or less sustained down the centuries from the early medieval times. The criteria for their site were availability of raw materials, e.g., cotton, in regions rich in black soil, simple availability of vegetable dyes and mordants, skilled labour, transport and marketing facilities and proximity to the ports. Regions of black soil such since Coimbatore, Madurai and Ramanathapuram and Tirunelveli districts in Tamil Nadu; Chirala, Guntur, Ellur etc., in north Coromandel and in Bijapur, Dharwar and Belgaum are dotted with weaving centres.

Weaving Societies are recognized through dissimilar names such since the Devangas, originally from Andhra and Karnataka areas, who later moved into the Tamil country in the Vijayanagara era, the Kaikkolas of Tamil Nadu recognized from the 7 century, the Saliga society or Sale or Saliya in all the three areas often classified since Padma Sale and Pattu Sale., the Jedara caste of weavers, most in Karnataka., the Senigar in Andhra and Karnataka areas. In the Tamil country the Saliya were a larger class of weavers while the Kaikkolas were primarily soldiers in the Chola era and members of the special troops of the kings. They pursued weaving face through face with soldiering and in the Vijayanagara era they became full fledged weavers. They claim to be the soldiers of Virabahu, the divine lieutenant of Kartikeya. The Devangas claim descent from the soldiers of their patron deity Chaudambika. Weavers had distinct quarters in the Tirumadaivilagam or temple square often described the Kaikkola-t-teru. The Saliyas were higher in status closely associated with temple management and since suppliers of cloth to royal families and social elite.

Textile diversities incorporated pudavai, *vetti* and *uttar* yam since mentioned in Chola inscriptions. The headgear in cloth was specially woven for the temple honours and for the higher

social clusters, separately from the gold coloured silk cloth for the deities and royalty. The *Kanchuk* was a stitched garment worn most through the lower strata of society. Tunnakkarar is a term referring to tailors recognized even from the post- Sangam epic i.e., the *Silappadikaram*. *Tayyan* or one who stitches and *tayyal*=stitch, *peruntunnan*, *ratna tayyan* are other conditions referring to the tailoring class. Corporations of tailors recognized since *gottali* or *kottali* are also mentioned in the Karnataka inscriptions.

Muslins and chintz, most woven, were produced in Masulipatam. The *Manasollasa*, a 12 century compendium of the Deccan, refers to *vicitra* or chintz, cotton and silk, tie and dye- tantu-banda etc. The Jaina job in Tamil described *Jivakacintamani* talks in relation to the pumpattu, paccilai pattu, which are varieties of silk. The pattavala pattu is mentioned in an inscription of the 12 century from Coimbatore and the 14 century inscriptions from Warangal also mention paccai pattu and dasari pattu, tassore recognized also from the *Mitakshara* of the 12 century.

In the dyeing and printing of cloth, vegetable dyes and wooden blocks were used such since kusumba- red safflower, nili, manjishta and caustic mediators or purifiers such since arishta, kadukkai. The *Manasollasa* refers to the diversities of dyes used. With the rising demand for textiles, taxes on weavers and dyers also came to be increasingly referred to in inscriptions from the 12 century AD in all the south Indian areas.

The development of textile technology throughout the early medieval times is indicated through the conditions referring to several instruments and apparatus such since the shuttle, ginning in a gin, pinjana or batting instrument, spindle for spinning, few of which are recognized from literary works like the *Abhidhanachintamani*, and occasionally referred to in inscriptions. The spinning wheel with the crack handle was introduced only in the 14 century through the Turks. The vertical loom was the primitive kind. That horizontal looms were also used is seen in the songs of the Kaikkola society described the Nainar Kuttar. The attract looms of the Chinese and also Transitional East look to have been well-known, especially the Persian manner of weaving through the Muslims. The patterned loom or achchu tari was recognized in south India from the 11 century onwards since referred to in an inscription of Tiruvottur datable in the reign of Rajaraja I.

Textile was transported on pack bullocks, wooden carts and head loads in internal deal to the weekly Santa weeks market. Leading textile manufacturing centres in the south were Shiyali, Arantangi and Kumbhakonam in the Tanjavur district, Sivagangai and Tiruppattur in the Ramanathapuram district, Sadras and Kancipuram in Chingleput district and Mayilapur in present Chennai. Madurai was a significant cotton producing and weaving centre with the Pandya port Korkai in the Tirunelveli district. In north Coromandel, Motupalli was well recognized for its silk yarn and cloth. The Venetian traveller- Marco Polo praises the delicate buckram and muslins of

Mutfli or Motupalli, which received a special charter from the Kaktiya king Ganapatideva for its promotion since a biggest trading centre...

In north Karnataka many centres such since Saimur, Honavar, Bhatkal, Barkur and in South Karnataka Mysore, Shimoga and Chitaldurga,, Terdal in Bijapur Mangalore in south Kanara are well recognized. Ibn Battuta refers to many spaces under the Honavar rulers recognized for their silk and fine linen. Chinese silk came to the Karnataka ports. Abdul Feda, Chau Ju Kua, a Chinese traveller of the similar era and Marco Polo refer to silk and chintz and other fabrics. State patronage to deal was constant particularly under the Chola Kulottunga I, Kalachuri Bijjana and Kakatiya Ganapati, whose abhayasasana to traders through sea and arriving from all continents, islands, foreign countries, and municipalities was meant to promote biggest exports, including textiles. There was more export deal than internal deal in textiles.

The commercial organisation for textile deal was in the hands of merchant corporations. That there was specialization in dissimilar characteristics of textile manufacture and sale is indicated through self-governing associations of cloth merchants since the one in Kancipuram, which often organised a mahanadu for the textile traders. The merchants had exclusive quarters such since kurai vanigar and Aruvai Vaniya ceri. The Piranmalai inscription of the 13 -14 century AD refers to several of them. Textile though was not a monopolistic thing of deal. It is well recognized that merchant organisations had their own regiments for defense. There were Cilai Cettis of dissimilar mandalams such since Jayankonda Chola Mandalam, Kongu Mandalam and Malaimandalam in the Tamil area. The Saliya chettis of Chidambaram had a special status in the city with their own Saliya *nagaram*.

References to Saliya Samayangal happen in Kalachuri inscriptions from the Belgaum. Brokers- taragu kasu in late Chola inscriptions incorporated the Kurai taragu ayam also. Taxation on the textile industry incorporated taxes on looms, Magga dere in Andhra and Karnataka and other levies such since achchu tari on patterned loom, tari pudavai, panjupili, parutti kadamai, pattadai nulayam. On dyers a tax described kaibanna or bannige is recognized from the Kannada inscriptions. The incidence of taxation was regular and was levied in cash or money. Instances of protest against high taxation were common in the 13 century under Hoysalas which increased in the Vijayanagara era. Privileges and big level concessions were given since a conciliatory measure through the kings i.e., the state.

The strong Devanga organisation in Karnataka and Mahanadu in Kancipuram at the secure of the 13 and '14 centuries AD., and the Saliyas functioning since temple managers and officers under the Cholas illustrate the nature and degree of power that the weavers slowly acquired in community and *vis-à-vis* the state. The Kaikkolas are more visible later and since service clusters to temples i.e.,

devaradiyar. Land and other gifts were made through them to the temples. Origin myths associating them with deities like Karttikeya and Goddesses like Kamakshi Chamunda etc. point to their enhanced ritual status. Monetary donations to the structure of temples or shrines in a temple and consecration of images such since those of Siva, Parvati, Pillaiyar and Kartikeya and service to temples since accountants spot the augment in the economic importance of the weavers and their status in community.

Land ownership and caste suffixes like Kaikkola Mudalis and titles like Pidaran, Kani yatci and Kudi Kani enjoyed through weavers also indicate their enhanced location in a predominantly agrarian community. Temple honours and exploit of representations like sangu and tandu were the social privileges enjoyed through them. The weavers also came to be classified under the Idangai-Valangai paradigm. In the Virasaiva or Lingayat society artisanal castes including weavers were given equal importance with other members. Weavers had a strong location also in Tenkalai Srivaishnavism with rights to perform rituals in the temples.

REVIEW QUESTIONS

- How do the land-grant inscriptions relate to the process of agrarian expansion?
- What were the traditional methods used to irrigate fields during the early medieval period?
- Critically examine the various forms of organisation of craft production in North India during the 6-13th centuries.
- How did the king, in the process of realizing his dues from the people, affect the stratification in rural society?
- Critically discuss the regional dimensions of our knowledge of early medieval agrarian structure.
- To what extent *agrahara* and *Brahmadeya* grants helped in the agrarian expansion in South India?
- Discuss the debates among the historians over the issue of urban decay. In your opinion which argument stands out more convincing and why?
- Critically examine how the process of re-urbanisation in south India got linked up with temple-economy?

CHAPTER 3

Expansion and Growth of Medieval Economy

STRUCTURE

- Learning Objectives
- Agricultural production
- Agrarian structure: relations
- Non-agricultural production
- Taxation
- Urban centres in medieval India
- Inland and maritime trade
- Business practices and monetary history
- Technology and economy
- Transport and communication
- Eighteenth century in Indian history
- Review questions

LEARNING OBJECTIVES

After reading this chapter you will be able to learn about:

- State briefly the dominant features of Indian agriculture during the medieval period.
- Analyze the techniques of production used in India during the medieval period.
- Explain the notion of power in the context of village community in the medieval period.
- Discuss the condition of peasants during the medieval period.
- Discuss the potentialities of capitalistic development during the medieval period.
- Compare the artisanal production with other forms of productions during the medieval period.
- Analyze the process of penetration of Mughal revenue system in the Deccan.
- Define the distinguishing features of *qasbas*, towns and ports.
- Critically examine India's trade during the 16-17th centuries vis-à-vis Asian trade.
- Analyze the growth of business practices in medieval period.
- Discuss the growth of artillery under the Mughals.
- Discuss the basic features of the organisation of postal communication in Mughal India.

AGRICULTURAL PRODUCTION

Pattern of Resource Exploit

Through the term resource exploit in the context of agriculture we imply the 'means' that were instrumental in the procedure of agricultural manufacture. Land, of course, engaged the foremost lay in this context. Besides land, 'working capital' was another significant component of it. Working capital symbolizes ploughs, bullocks, etc. The third factor was the capability and capacity of the peasants to organize the farming. Here, peasant himself beside with his family members engaged foremost lay in the manufacture procedure particularly in the medieval context when the farming was mainly based on 'individual peasant cultivation'. Further, the role of hired labour and tenants-at-will was equally significant.

Land

Land was accessible in *abundance* all by the medieval era. Therefore, the high land: man ratio was a significant characteristic of the medieval agrarian building. However it is extremely hard to assess the actual mass of landholdings per *asami* throughout the Sultanate era, few local studies pertaining to the Mughal era do shed few light. Dilbagh Singh has calculated for eastern Rajasthan the mass of landholdings per *asami* since high since around 90 *bighas*. As land was in *abundance* it was the state's concern to stay the peasant tied to the land. Aurangzeb in his *Farman* to Rasikdas ordered that if the peasants have fled the *amils* should attempt to bring them back. All by the state's interest was to expand the farming for the purpose of raising its revenue possessions.

Bullocks constituted a biggest working capital throughout the medieval era. S. P. Gupta has calculated for eastern Rajasthan that there was on a standard 3.31 bullocks per peasant, indicative of a favorable cattle population throughout the medieval era. In the Maratha country villages, particularly boundary villages, had to constantly side the problem of cattle lifting that in turn created troubles to cultivate the land. Another significant aspect relating to resource exploit was the capability of the peasant to possess the ploughs. The more the ploughs in his possession the more the *jots* he could control and the higher would be his status in the village hierarchy. S. P. Gupta has mentioned since much since 9 ploughs in the possession of a *patel* of *pargana* Mauzabad in eastern Rajasthan since against the maximum of one or two held through the poor peasants.

The availability of animal domination was another significant factor instrumental in the extension of farming. Abul Fazl, court chronicler of Akbar, records the number of cattle allowed tax free for each plough was 4 bullocks, two cows and one buffalo. While in 1924-25 in Uttar Pradesh

standard number of cattle per yoke was 2 bullocks, 1.1 cows and 1 buffalo suggests the availability of higher stock of cattle in c. 1595. It also suggests the greater capability of peasants to plough. For eastern Rajasthan Dilbagh Singh has assessed that a plough possessed the capability to cultivate approximately 50 *bighas* of land. Though, *Haqiqat-i Suba Bihar* mentions that the official perception of the Mughals in this regard was that one plough was enough for twenty *bighas* of well cultivated land after that new plough should be issued for any further addition. In spite of difference in assessment Dilbagh Singh's analysis for eastern Rajasthan 'that there was a broad correspondence flanked by the extent of farming and the number of ploughs and oxen accessible in a scrupulous village' holds good. Dilbagh Singh mentions that there was considerable reduction in farming in *parganas* Amber and Gaji Ka Thana on explanation of lesser availability of the animal domination.

Extent

Delhi Sultans, particularly Alauddin Khalji and later Muhammad Tughluq experimented with measurement of the agricultural land. Abul Fazl gives us in great details the statistical information with regard to the extent of farming. It is motivating to note that for measurement both *kharif* and *Rabi* crops were considered apart. Suppose, in a village both *Rabi* and *kharif* crops are harvested then that village land was calculated twice.

Abul Fazl's *arazi* figures almost certainly comprised not only the gross cropped region since W. H. Moreland has pointed out, but also incorporated current fallows, cultivable waste and sections of uncultivated waste since rightly pointed out through Irfan Habib and Shireen Moosvi. Shireen Moosvi has calculated that Ain's *arazi* figures incorporated approximately 10 per cent of the uncultivable waste. Dilbagh Singh and S. P. Gupta's calculation for eastern Rajasthan illustrate that the range of waste land varied from 7-20 per cent. This could be *basti*, forest, *nullah*, *nadi*, tank, garden land or hills. Shireen Moosvi for Akbar's era and S.P. Gupta for eastern Rajasthan have pointed out that the total cultivated region was approximately 50-65 per cent of the considered region. B.L. Bhadani's statistics for western Rajasthan also suggests that the region under farming was approximately 'half of the region surveyed.' Though, K. K. Trivedi argues for *suba* Agra that the considered region was around 55 per cent out of which only 50 per cent was under farming. Shireen Moosvi has calculated the standard rate of extension of farming at 0.23 per cent since against 0.21 per cent rate of development of population throughout c.1600-1871. She has compared the gross farming in c. 1595 with that of c. 1910 agricultural statistics and concluded that the standard extent of farming comes out to be 47.35 per cent i.e. it was approximately half of what it was in 1910. Irfan Habib has assessed that standard yields per head under the Mughals were almost certainly much higher than what it was in c.1900. K.K. Trivedi's revise on *suba* Agra also points out that in case of

food crops the yields were 20% higher in 1595 since compared to 1892 statistics. Shireen Moosvi, though, argues that yields per acre flanked by c.1540-1870 for biggest food crops remained practically the similar; in case of cash crops there was comparative decline in their output. South India also records high stage of productivity throughout this era. But there occurred sharp decline in the productivity throughout the 19th century in the area. In Marwar area, on explanation of aridity, there was tendency to leave the cultivated lands fallow for around three years to regain fertility. This led B.L. Bhadani to conclude that almost certainly there was tendency to shifting farming in the Marwar area. A.V. Desai has stretched the argument for Ganga-Yamuna *Doab*. But Shireen Moosvi rejecting Desai's formulation argues that it 'was confined to few scattered non-contiguous pockets which were not geographically or ecologically separate in any sense from the tracts approximately them...'

High productivity mainly depended upon irrigation facilities and excellence of the soil. Harbans Mukhia argues that usually speaking farming throughout the medieval era confined mainly to the 'mainly' fertile plains. High yields for several crops entered in the *Ain-i Akbari* led K.K. Trivedi to conclude that in *suba* Agra 'the farming was normally confined to fertile land.' Chetan Singh also points out that in Punjab the extension of farming was mainly occurred only in 'agriculturally urbanized regions' throughout the 17th century. The availability of good excellence water equally affected manufacture. Yields under saline water could perhaps be good but oily and oily and extra saline water was not useful in conditions of productivity. One cause for the big level expansion of farming was sharing of secular and religious grants. Each *madad-i maash* grant was normally consisted of 50 per cent *banjar* or *liak uftada* under the Mughals. In Maharashtra Shahji's Poona *jagir* initially was a desolate country infested through 'wolves, wild beasts and robbers.' Dadoji Kondadev implanted Malves to clear the land and got them settled in the area through giving permanent rights in excess of the land they cultivated.

The pattern of productivity on irrigated and arid land varied from area to area. In Kashmir the standard output of *abi* land was six times higher than yields of the *khushki* land. In Maharashtra cultivable land accessible was extremely small. A.R. Kulkarni has brought out that in village Menoli cultivated land was presently 16 per cent of the total village land while availability of irrigated land was even much less. It constituted only 1 per cent in village Nayagav, *pargana* Sirval. Though, Bhimsen, script in 1658, mentions in relation to the Aurangabad that 'the area is extremely thickly populated and not a single piece of land was to be establish there which was without farming.'

Dilbagh Singh's revise on eastern Rajasthan illustrates that there was separate decline in agricultural manufacture in post 1750s in the area that resulted in rising 'poverty and indebtedness'

of the *raiyats*. In *pargana* Chatsu in 1763 *raiyat* possessed 350 meadows out of which they sold off 175 to *Mahajans*, 'a number of them reduced to the status of share croppers and wage earners.'

Forest Clearances

Clearing of forest row for the purpose of agrarian expansion was a general characteristic throughout the medieval era. The history of growth of agriculture is history of forest depletion. The development of one shape of sustenance resulted in depletion of another shape of sustenance. The beginning of our era saw huge expanse of forest cover in the Gangetic plains. The forest cover drastically changed through the secure of the seventeenth century. Armed domination went hand in hand in the procedure of extension of farming through clearing forests. Armed group accompanying woodcutters was a general characteristic in north India throughout our era of revise. In the Ganga-Yamuna Doab we get frequent references to peasants/rebels taking refuge in the forest. Balban harshly dealt with such uprisings of the Mewatis and the Kateharias and cleared the jungles of the surrounding regions where they took refuge and recognized forts with Afghan garrisons. The fourteenth century historian Zia Barani observes:

- Towards the first year of his reign he employed himself in harrying the jungles, and in routing out the Miwattis, whom no one had interfered with as the days of Shamsuddin...
- In the year of his accession, the Sultan felt the repression of the Miwattis to be the first of his duties, and for an entire year he was engaged in overthrowing them and in scouring the jungles, which he effectually accomplished. Great numbers of Miwattis were put to the sword. The Sultan built a fort at Gopal-gir, and recognized many posts in the vicinity of the municipality, which he placed in the charge of Afghans, with assignments of land...
- After the Sultan had therefore routed out the Miwattis, and cleared absent the jungle in the neighborhood of the municipality, he gave the cities and the country within the *Doab* to few distinguished chiefs, with directions to place waste and destroy the villages of the marauders, to slay the men, to create prisoners of the women and children, to clear absent the jungle, and to suppress all lawless proceedings. The noblemen set in relation to the job with strong forces, and they soon put down the daring of the rebels. They scoured the jungles and drove out the rebels, and the *ryots* were brought into submission and obedience...
- While the Sultan was occupied in these duties news arrived from Kateher that disturbances had broken out...he gave them orders to burn down Kateher and destroy it...The entire district was ravaged, and therefore much plunder was made that the royal army enriched, and the

people of Badaun even were satisfied. Woodcutters were sent out to cut roads by the jungles....

Nurul Hasan has brought to notice with regard to *suba* Bihar that throughout the reign of Shahjahan mainly of the *zamindaris* originated in *bankati* or land populated after clearing forests.

- From the time of Shah Jahan, it was customary that wood-cutters and plough men used to accompany his troops, therefore that forests may be cleared and land cultivated. Ploughs used to be donated through the government. Short-term *pattas* were given, fixed government demand at the rate of 1 *anna* per *bigha* throughout the first year. *Chaudhuries* were appointed to stay the *riaya* happy with their considerate activities and to populate the country. They were to ensure that the *pattas* were issued in accordance with imperial orders and pledged word was kept. There was a common order that whosoever cleared a forest and brought land under farming, such land would be his *zamindari*... Ploughs should also be given on behalf of the State. The price of these ploughs should be realized from the *zamindars* in two or three years. Each *hal mir* should be establish out and given a *dastar* therefore that he may clear the forests and bring land into farming. In the manner the people and the *riaya* would be attracted through good treatment to approach from other areas and *Subas* to bring under farming wasteland and land under forests.

The cleared tracts were entrusted since *pattas* upon those involved in the clearances therefore the new *zamindaris* were created in the area. There was sharp augment in farming in Bihar on explanation of clearance of forests for agriculture. The land south of Munger was mainly a forest belt inhabited through tribals. Sher Shah with the help of his Rajput and Afghan soldiers suppressed the tribals adjoining Sasaram and cleared the jungles and tried to expand the regions under farming. Sher Shah also sent Khawas Khan and Darya Khan to win in excess of the tribal tracts crossways the Son River in Palamau and cut down the jungles of Jharkhand in vast quantities. There were also Rajputs who fled from north and central India created new settlements in the Jharkhand and Chotanagpur plateau described *bhums*. Several *zamindaris* were recognized. Raja Bahroz Singh of Kharagpur brought enormous quantity of land under plough in this area through clearing forests. Aurangzeb granted Kunda to Ram Singh in ghatwali tenure to guard the passes. The Mughals granted a jagir to the Lokragarh-Khetauri Rajput family of Manihari Godda. Chandels conquered the tract of the Bhuiyas and founded three kingdoms Gidham, Khaira and Kharagpur. With these conquests Koeri, Kurmi, and Muslim peasants also migrated beside with them. They shaped their own settlements like Brahmanbhum, Gopibhum, Bhangibhum, etc. Therefore helped in reclamation of land and extension

in farming in the tribal regions of Jharkhand and Chotanagpur areas and sowed the seeds of settled agriculture in the tribal areas.

Question of Productivity

Productivity is closely related to the nature of the availability of soil in a scrupulous area. The excellence of soil in turn depended upon 'other' factors – rainfall pattern, availability of irrigation channels and nature of mineral deposits in the soil. Closely related to soil are famines. Its frequency and dreadfulness is mainly determined through the availability of natural possessions and how well the region is equipped to handle the natural disasters. Let us review the pattern of availability of natural possessions throughout the medieval era in the subcontinent and how distant it affected and determined the pattern of agricultural manufacture in the area.

Soil

Depending on the nature of soil and regional circumstances, while taking up the assessment Mughal rulers adopted 'indigenous ways of the classification of lands'. In *Suba Bihar* the lands were classified under the heads *kahelfi* and *kanhel*. *Bhoor* was sandy soil usually acquiesced *kharif* crops. The other two biggest land classifications were *bangur* and *khadir*. *Khadir* crop was usually uncertain. Likewise, since compared to dry areas alluvial soil does not need deep ploughing.

Under the Mughals land was divided into *polaj*, *paraui*, *chachar* and *banjar*. *Polaj* never allowed remaining fallow and less labour was required for farming. *Paraui* was left out of farming for sometime to recover its strength for farming. *Banjar* remained mainly uncultivated for five or more years. Even few of the *banjar* tracts remained barren permanently particularly in a desert and hilly tracts. For assessment *polaj* and *paraui* lands were further divided into *abi*, *chahi*, *nahari*, *barani*, and *sailabi*. *Subas* of Delhi and Oudh particularly possessed *sailabi* lands fed through their chief rivers Ganges and Yamuna. Crops on *sailabi* lands equally possessed the danger of being destroyed through excessive river floods. On sure *sailabi* tracts manufacture of three crops was possible. *Barani* lands were divided into two: *Duhur* – low lying; overflows through rivulets and often under water for one to two months; *katli* – land approximately river banks. *Sailabi* lands were mainly suited for rice. *Barani* lands mainly produced jowar, bajra, lahdarah, and moth. *Ain-i Akbari* mentions the soil of Ajmer since mainly sandy. Kashmir had three kinds of lands – *abi*, *lalmi*, and *chalkhair*.

There were several local differences of soil kinds. In the Maratha territories rain fed land was recognized since *jirayat* while land enjoyed irrigation facilities was described *bagait*. Alluvial soil, to be established beside the rivers was recognized since *malai* or *malav*. Plains usually possessed black soil while in the hilly tracts red soil was commonly present. In the Konkan area black soil was unusual and mostly the soil was reddish brown. Alluvial soil was accessible only beside the river banks. In this area lands were of two kinds – *malvarkars*, where plough could be used; another kind was *dongrivarkas*. These were steep slopes where farming was possible only by manual labour. In south India land was of two kinds – *nancai* and *punca*.

India was recognized for its fertility of soils. Both, from the point of view of crops sown and lands left fallow Indian soils' fertility stand unquestioned. Indian soils have unbroken record of yielding two or at times three to four crops a year. Manuring in the shape of animal droppings was accessible in abundance on explanation of the attendance of cattle population in good numbers. Further, since Harbans Mukhia has pointed out, the high fertile property of river waters, particularly of the Ganga basin, resulted in authentication of 'fertile silt in the river valley with each annual inundation' since the biggest factor keeping in the fertility of river basin soils naturally intact.

Famines

Famines used to happen at regular intervals. It was often the result of scarcity of rainfall or caused through excessive rains. There occurred severe famine in Delhi throughout Iltutmish's reign. The well-known famine of 1326-27 throughout Muhammad Tughluq's reign totally devastated the *Doab* area. In 1631 floods led to extreme famine situation approximately Surat. A year proceeded to it was a drought year. Therefore throughout 1630-32 Gujarat saw unprecedented famine resulting in the loss of 3 million lives. Locusts also used to harm the crops quite often. In 1675 however rain was enough crops were destroyed through locusts in Marwar area. B.L. Bhadani's revise illustrates that from late 17th century onwards famines became more frequent a phenomenon in Marwar area. Let us discover out state's response to tackle the crisis and the relief events undertaken through the state.

Barani in his *Fatawa-i Jahandari* suggests that 'The King can help the people through reducing the land tax and the poll tax or through advancing them loans from his treasury through creation a gift of what he can do to the poor and needy. He can direct the cash loans to be advanced to merchants therefore that they may import from other countries and sell it to the *raiya* at the cheapest possible rates. If the famine is more severe, the King can remit the land tax and poll tax altogether and issue a common order to the rich men of the kingdom asking them to take charge of the poor and destitute therefore that the people may not perish in every tribe or locality.'

Alauddin throughout famine made it mandatory to purchase the granules only to meet the immediate requires. Muhammad Tughluq laid out elaborate instructions, both extensive term and short term, to handle the problem. To give immediate relief throughout the *Doab* famine he distributed gifts from the treasury. Ibn Battuta informs us that he ordered 'that all the inhabitants of Dihli should be supplied with six months 'sustenance' to distribute six months provisions to the families livelihood in Delhi. He abolished, since a relief measure, all duties on foreign goods coming to India. Wells were dug up at the state's initiatives. Seeds were distributed to the peasants. Since an extensive term measure Muhammad Tughluq ventured to bring vast amount of land under state's direct farming with direct financial support through the state. Muhammad Tughluq also chalked out a farsighted master plan. He suggested that in the famine prone regions alternative shape of crops might be cultivated. Firuz's canals also brought great relief in the regions.

Abdullah in his *Tarikh-i Daudi* records that throughout famine Sikandar Lodi took *zakat* in type. Sher Shah, conceived the plan of storing the grain for any 'unavoidable conditions'. *Tarikh-i Afghan* mentions that even he ordered to extract and collect 10 *istar* per *bigha* to be composed from the peasants for storage. Since a result grain became cheap and one does not record any famine throughout Sher Shah's reign.

The impact of famine was devastating. Prices used to mount all time high. We get frequent references to people resorting to eating flesh of dead animals. Famines accompany death and destruction causing health hazards in the area. Famines often resulted in loss of cattle, inadequacy of man-domination, and in the migration and dislocation of the peasant population. In 1630 famine people from Rajasthan migrated to Patna where Hiraji Sah provided them with shelter and fulfilled their vital requires. Migration of peasants towards spaces like Burhanpur, Agra, Mathura, and Malwa, etc. was a general characteristic throughout famine occurrences in Rajasthan. *Amil* of *pargana* Naraina informs that 1665 famine forced *riaya* to migrate to the territory of Malwa. He tried to bring back the migrants, but establish several had died, few turned to labourers. He assured that he was trying to bring back their comparatives and other peasants to rehabilitate the villages. Gujarat famine not only caused dislocation of population but also its impact was therefore devastating that there occurred changes in the cropping pattern. Peasants abandoned farming of cash crops to food crops.

Techniques of Manufacture: Crops

Indian agriculture throughout the medieval era was not static. New techniques were constantly being evolved and adopted in the field of agriculture and drastic changes took place not only in conditions of techniques involved but also in the patterns of crops grown..

Cropping Pattern

In north India there were two crop seasons – *kharif* and *Rabi*. In Rajasthan it was recognized since *siyalu* and *unhalu*. In south India on the foundation of specific diversity of rice farming there lived two crop seasons *kuddapah-kar* and *sambpeshanam*. Otherwise in case of other crops there was complete absence of crop seasons. Duarte Barbosa commented on Malabar that here, ‘everything is produced in every month of the year.’ In south India particularly black soil regions contained sufficient moisture that made possible agricultural manufacture all the year round. Sure crops required one year to mature, while gestation era for few was three years. Few crops were sown jointly but harvested at dissimilar eras of time. Since for multiplicity of crops, Indian peasant stood after that to Chinese. *Ain* records since much since 40-45 crops sown. The farming was mainly *do-fasli* unlike the European single crop manufacture. Since a result superior agricultural surplus was accessible since compared to their European counterparts. Ibn Battuta also observes double cropping, a norm in India. He remarks, ‘The Indians sow twice a year. When the rain falls in their country in the hot season they sow the autumn crop, and harvest it sixty days later. When they harvest these sixty days after sowing then, they sow the spring cereals...They are sown in the similar ground where the autumn crops are sown for their land is generous and of good heart. Since for rice, they sow it three times a year, and it is one of the principal cereals in their country’. Sujan Rai Bhandari informs us that in sure cases in Punjab even three or more crops were cultivated. But few regions like western Rajasthan on explanation of aridity even the regions containing sweet water wells were not sufficient for double cropping. In Rajasthan double cropping was possible only in clayey soils, in lighter soils it was rather rare. Crops grown on rain fed tracts fetched low prices since compared to the crops required artificial means of irrigation. For Maratha area, though, A.R.Kulkarni concludes that only in the *Des* region where black soil could be establish rotation of crops was possible. Beside the coastal areas where soil mainly contained marine deposits was favoured for garden crops. Where irrigation facilities were accessible second crop was possible otherwise in the Maratha area generally one crop was raised.

Throughout the medieval era there was tendency to encourage farming of high grade crops replacing the inferior ones. Muhammad Tughluq asked the peasants to grow high grade crops –

wheat replacing barley, sugarcane replacing wheat, and farming of date and grapes in lay of sugarcane. Aurangzeb also clearly accentuated in his *Farman* to Rasikdas that effort should be to switch in excess of from inferior to high grade crops.

The medieval peasant did possess the knowledge that few crops are beneficial to the soil. Pulses like mung, urd, and peas were grown with food grains most with a purpose to enrich soil fertility L.A. Alaev confirms the prevalence of crop rotation in South India. Few crops particularly cash crops and *Rabi* crops required more ploughing and artificial means of irrigation in comparison to food crops. That is why in more dry areas like Rajasthan usually bajra, jowar, etc. were produced. We do get references to mixed crops. The practice of rising mixed crops was recognized in Mughal India. Bajra was generally mixed with one or the other leguminous crops. Likewise, there are references to the manufacture of gochani, *bejhari*, etc. Moth in Rajputana and gram in Punjab and Haryana belt were always grown alongwith food crops and rarely single.

Crops

Cropping pattern still sustained to be the similar in the Gangetic plains. Mainly wheat, barley, gram, pulses, sugarcane, cotton, oil seeds, etc. were grown in the tract. Barley was the biggest crop grown in Rajasthan. Though, it was not the favoured crop in the areas of Bengal, Bihar and Assam. Gram was extensively produced in western Rajasthan but later its manufacture declined sharply. Bhadani tried to attract similarity to the long farming of gram throughout the 17th century to its great demand through the Rajput soldiery for cavalry. In southern section of India rice was the staple crop of the area on wet lands. Other significant crops grown in south India were cholan, ragi, varagu, sesame, flax, groundnut, cotton, etc. In medieval Orissa, Kashmir, and Assam also rice was the staple crop, however wheat, barley, pulses, gram, etc. were also produced in the area. In Kashmir approximately 2/3rd of the land was sheltered under paddy farming grown on *abi* land. Bihar was also recognized for its rice manufacture. Though, in Rajasthan rice was not at all produced.

The regions flanking the Western Ghats were well-known for the manufacture of spices. Beside, spices other items of manufacture were aniseed, cumin, coriander, caraway, dit, etc. Extensive pepper grew wild in the forests of Champaran. Abul Fazl mentions it fetched since high since 16 *dams* a *ser*. Opium was produced mainly in the areas of Malwa and Bihar. Nainsi and Peter Mundy record that opium, cotton and indigo were also grown in the Merta area. Throughout the medieval era san/sunn-hemp dominated in excess of jute in conditions of manufacture in Bengal. The latter could achieve greater importance only in the 19th century in Bengal at the expense of rice and sugar. It was also produced in Ratnagiri district in *abundance*, used mainly for creation fisherman's nets, ropes, etc. Coffee was a recognized drink in the middle of the elites. It was mainly imported

from Arabian Peninsula and Abyssinia. A coarse diversity of it was produced in southern Maharashtra. Kashmir was recognized for its saffron.

The 17th century marked through the introduction of several new crops viz. maize, potato, sweet potato, tobacco, groundnut, chilly, and tomato. *Ain* does not list maize in the middle of the crops for which cash revenue rates are provided. It seems to be a late introduction from the new world. Exploit of the word *makka* suggests its travel from the Red Sea circuit. However we do get references to its farming in the 17th century from eastern Rajasthan, Maharashtra and the Deccan almost certainly its long farming started from the nineteenth century onwards. Chilly was introduced in India throughout the 17th century, but its spread became more general throughout the mid-18th century only. Exploit of tobacco spread phenomenally fast. Anand Ram Mukhlis observed a big quantity of tobacco grown in the Sambhal area. Alexander Hamilton visiting Orissa in 1708 referred to the manufacture of tobacco at Balasore.

In the middle of the garden crops Ibn Battuta speaks high of mangoes. Bernier is full of praise of the mangoes of Bengal, Golconda and Delhi. The whole Konkan coastal belt produced mangoes, coconuts, betel-nuts, betel-vine, areca-nuts, palm, pineapple, jack-fruit, sweet potatoes, etc. *Des* gardens in Maharashtra with irrigation facilities were well-known for manufacture of grapes, betel leaves, figs, etc. Alberuni establish the exploit of betel-leaf fairly widespread in India. Amir Khusrau in his *Aijaz-i Khusrawi* mentions since much since 42 diversities of it. Bihar was recognized for the manufacture of *Maghi pan*. Hajipur was acclaimed for the manufacture of jackfruit. In *sarkar* Tirhut, *suba* Bihar orange grooves extended since distant since 30 miles. It rapidly spread approximately all in excess of the area. Papaya and cashew nuts were other introductions from the new world.

It is motivating that fruits were mainly seed grown. Turks introduced grafting technique that provided great boost to the development since well since excellence of sure fruits particularly oranges. By grafting techniques several fruits from central Asia began to be cultivated throughout the 17th century. Though, melons were produced through importing seeds from Central Asia. Bernier mentions that 'there are no means of procuring good ones, and sowing it in ground prepared with extraordinary care, in the manner practiced through the grandees. Good melons, though, are scarce...' Initially exploit of grafting was the royal preserve. Shahjahan lifted ban on restriction of the exploit of grafting techniques, therefore its exploit filtered down to the masses. Throughout the 13th century manufacture of grapes was not since widespread since at the turn of the century. Muhammad Tughluq encouraged peasants to shift to manufacture of grapes. We hear Firuz Tughluq planted many diversities of it in his 1200 orchards approximately Delhi resulting in sharp decline of its prices. Shams Siraj Afif mentions its prices since 1 *jital* per *ser* while wheat could be bought at 8 *jitals* a *man* throughout Firuz Shah's reign.

Manufacture of fruits and vegetables was mainly confined to the vicinity of the urban centres. In north India Mali caste specialised in its manufacture. In medieval era there urbanized custom of maintaining orchards. But it was mainly maintained through the emperors or the nobility. State's approximate annual income from royal gardens in the Deccan throughout the late 17th century was Rs.557,586.

Commercialization of Agriculture

Irfan Habib argues that the state's insistence to collect revenue in cash and also to gain profit was the biggest factor behind the commercialisation of agriculture throughout this era. An alternative opinion is that there is plenty of proof of prevalence of money and swap in the rural economy prior to the state's demand of revenue in cash. Though, this activity of the state would certainly push commercialisation in the agricultural sector. At any rate the cultivator also benefited from it either through selling his produce in the market or through producing high value crops. The peasants responded to requires of the market. Cotton was one of the crops produced keeping in view the demand of its final product, the textiles, outside the regional market. Sugar, both, candy and powdered was produced for the market. Indigo was one of the mainly significant of the commercial crops in demand. Indigo cultivators from Sehwan in Sindh who used to export their product to the transitional east had to side lot of difficulty when the demand declined sharply in 1640s. Tobacco, however a 17th century incorporation, also got commercialized extremely fast. Therefore considerable amount of agricultural manufacture was actually 'commodity manufacture'. Irfan Habib argues that the farming of cash crops required superior investments and it was beyond the affordability of an ordinary peasant. Therefore he links the commercialization of larger agriculture to *khwud-kashta* farming. He says that '*Khwud-kashta*, organised for commodity manufacture, comes closest to capitalist cultivation.'

Means of Manufacture

We have scanty information on the kinds of apparatus used for agricultural operations. Though, wooden apparatus were more commonly employed in comparison to iron. European travelers mention the exploit of wooden plough but iron ploughshare, however for sandy and light soils difficult wood ploughshare was also in exploit. In the Deccan and south India particularly in the black soil areas heavy plough drawn with the help of 2-3 and at times 4-5 pairs of oxen was used. But plough used in the wet lands was smaller and light. Indian plough was without mould boards for its usage was hardly appropriate to Indian circumstances. It involved threat of mixing saline and acid

objects. Same was true of the exploit of less depth plough. That reduces water retention and threatens fast drying of the soil.

Cattle maturing were mainly general. In western Rajasthan we do get references to flocks of sheep kept on the meadows for two-three nights. Commenting on the situation in south India L.A. Alaev mentions that to fertilize the soil around a flock of 1000 heads spending 5-6 nights on a *kani* was required. As it involved high payments to the herdsmen, only the higher strata could afford it. In the Deccan and south India wet lands and black soils hardly required maturing instead red soils described for its usage. Usually the technique used for rice farming was transplanting of seedlings in cluster of 3-5 plants. It used to take three to four months to be ready for harvesting. For broadcasting, arid since well since sprouted seeds were used in south India.

Techniques of Manufacture: Irrigation

While *kharif* crops mainly depended on the monsoons/rains, *rabi* crops heavily relied on the availability of the artificial means of irrigation in north India. Babur laments the absence of 'running waters'. He accentuated the information that crops were most dependent on rainfall and few other artificial means of irrigation. We do get frequent references that bad monsoon or excessive rains resulted in migration of the peasants. In contrast to Babur Zain uddin Khawaf highlights the attendance of rivulets from the rivers for irrigation purposes. *Ain* records a number of *mahals* and villages situated on river/stream banks mainly by water from them for irrigation. Since compared to the north, rainfall pattern in south India was much more evenly distributed on explanation of south-western and south-eastern monsoons. Further, in south India 'arid farming' was more general since compared to north India. However long irrigation ventures were undertaken through the rulers, elites since well since villagers, hardly much care was taken for its maintenance.

Well

The mainly general means for irrigation was from wells. Muhammad Tughluq granted loans to the peasants for digging up wells. Babur notes the prevalence of both the Persian wheel in Lahore and Dipalpur and indigenous *charas* in the area east of Yamuna. The *charas* could job both on the well and on the river banks. *Rabi* crop mainly depended upon artificial means of irrigation. In his *farman* to Rasikdas *karori* Aurangzeb also accentuated that the old wells fallen out of exploit should be repaired and that new wells are dug at dissimilar spaces for extension of farming and manufacture of *jins-i kamil*. The *baoris* were also used for irrigation purposes. Muhnot Nainsi, *diwan* of Raja

Jaswant Singh in his *Marwar ra Pargana ri Vigat* mentions two kinds of wells used for irrigation – *kosita* and *kohar*. *Kachcha* wells usually outnumbered *pakka* wells.

Irfan Habib argues that the introduction of Persian wheel resulted in augment in productivity in the area of Punjab. Chetan Singh, though, questioned the effectiveness of Persian wheel in the area. He says that Persian wheel had its own limitations. It was not extremely effective where water table was extremely low. Beyond ten meters its exploit becomes less economical. That is why in sure regions of Punjab *charas* sustained to be more effective where water has to lift from great depth. Manucci records *charas* since the prominent mode in the environs of Lahore. Advantage with *charas* was, Chetan Singh argues, its low cost and exploit of less animal domination. It is motivating, though, that Muhnot Nainsi records the opposite what Chetan Singh is arguing. He mentions that *charas* was used upto the depth of 15-45 feet and Persian wheel operated on the depth ranging from 42/45-84 feet. It is motivating to note that in eastern Rajasthan there is no reference to Persian wheel instead *charas* was the mainly general device used to lift water from wells for irrigation. Almost certainly ‘prohibitive cost of the organization placed it beyond the reach of Indian cultivator’ since rightly pointed out through Irfan Habib. In Maharashtra land irrigated through wells was described *motasthal*. Though, well irrigation in this region was not a general characteristic since in Rajasthan and the Mughal territories. Same was the case in south India. Nonetheless, for irrigating garden crops wells were often used.

Tanks, Dams, and Reservoirs

Exploit of dams for irrigation purposes was widespread throughout the medieval era. Babur equally acknowledged the exploit of lakes, tanks, ponds, and reservoirs for irrigation purposes. Zainuddin Khawaf refers to *jalhas* i.e. lakes and ponds in few cases extending from 1-3 *kuroh*. These were particularly useful for irrigating vegetable meadows and orchards. Babur records that where proper channels were not accessible people themselves used to carry water in pitchers to irrigate plants. Though, such cumbersome way could perhaps be used to irrigate little plots. Dams were used efficiently to utilise the flood waters. Chandella dam of Muzaffarpur village, tehsil Chakiya, district Varanasi, Uttar Pradesh that survived till 1954-56 utilised efficiently the flood water flowing into Chandraprabha River used for irrigating huge tract of Chandraprabha-Karmanara *Doab*.

Raja Bahroz Singh of Kharagpur erected a dam, Bhimbandh. It utilised the rain water from the hills. He chalked out a motivating plan of distributing rain water. Big channels on raised platform were erected to carry out water from the dam. Such was the sharing that water was made accessible during the year. Another same reservoir *raja rani* was erected through Bahroz on the eastern face of Kharagpur hills to utilise rain water for irrigation. The water remnants in the reservoir all the year

round and it are still in exploit for irrigating paddy meadows. In the Maratha territory irrigation through aqueduct, recognized since *patasthal* was a general characteristic. Villages used to store rain water in the dams to be used for irrigating their meadows by aqueducts. Though, rivers and streams generally arid up in the summer and the way was not at all useful for irrigation in the summer.

Tanks and reservoirs were also used to irrigate meadows. K. K. Trivedi has pointed out the attendance of tanks in approximately every village in Agra *suba*. In Marwar we do hear of the construction of big number of tanks Sur Sagar, Farasat Sagar, Vasant Sagar, etc. through rulers and nobles. These tanks required regular cleaning. Abul Fazl records when Akbar visited Merta he ordered a reservoir to be cleaned which was earlier used for irrigation purposes.

The mainly popular shapes of artificial means of irrigation in south India were reservoirs, tanks and dams. Though, construction of it involved vast amount of money that made individual attempts impossible. Invariably, one discovers mainly the involvement of either the whole village or cluster of villages or else elite or the state. Vijayanagara rulers took special interest to place huge network of tanks in their territory. The earliest record of tank construction through the Vijayanagara ruler is of 1369 when Bukka I's son Bhaskara Buvadura brought the water of Maldevi river for irrigation. The tank is still used for irrigating meadows. The tank is seven miles extensive and two and half miles broad. He also ensured the water supply at Penukonda through digging a channel and connecting it to a tank. Devaraya I brought the water of Tungabhadra from 15 miles aloofness to his capital. It is even now used for irrigating the meadows. Krishnadevaraya also built at Nagalapur a vast tank – Rayara Kere for irrigating rice meadows and gardens.

Throughout the Vijayanagara era, particularly in the semi-dry areas, several individual attempts were also undertaken through men of prominence. In return they were assured of a share in the enhanced produce. It shaped section of their 'transferable property'. Such tenures came to be recognized since *kattu-kodage* in Karnataka and *dasavanda* in Tamil area. In one such case builder of the tank in a temple village was assured 3/10th of rice produced on land irrigated through the tank and a section share in ragi produced on the arid land. In return he was held responsible for repair and maintenance of the tank. Involvement of temples in tank structure behaviors for irrigating meadows in their own *devadana* villages was acommon characteristic of our era in south India.

Canal

In south India rivers are mainly rained and water stage often fluctuates. On explanation of this canal irrigation was hardly favoured since means of irrigation. In contrast, in north India from the beginning of the 14th century our era saw the establishment of vast canal networks for irrigation purposes. However, the beginning was done through Ghiyasuddin Tughluq, it was Firuz who

recognized a vast network of canals for irrigation purposes. To obtain continuous water supply to his newly built city of Hissar Firuza Firuz dug two canals from Yamuna – the Rajabwah and the Ulughkhani. It greatly helped in the extension of farming in the area. Both Barani and Afif mention that earlier only the *kharif* crop was cultivated now even the farming of *rabi* crop also became possible. Afif praises that it also helped in raising the ground water stage in the area. Later throughout Akbar's reign both Rajabwah and the Ulughkhani were re-exhumed. Shahjahan further extended the canal 30 *kuroh* in length and brought the water down to his newly built capital – Shahjahanabad. Throughout Shahjahan's reign another significant canal was exhumed in the Upper Bari *Doab* area on river Ravi that accepted the water upto Lahore.

In the Maratha territories digging up of the canals and dams were mainly the responsibility of the respective villages. Though, A.R. Kulkarni argues that the state necessity also be 'bearing total or incomplete expenditure of the construction of new dams or the repairs of old dams.' Water canalized by aqueducts was described pals by cooperative attempts. Kulkarni mentions a motivating *mahzar* of 1674 in which plaintiff complained against the construction of a dam on river Banganga through the *ryots* of the Mohadi village in Nasik district.

To a big extent in the northern area agriculture was rained. Digging up of wells was the result of individual attempts. They could irrigate only a little region. In the Deccan and southern plains we do discover making of artificial lakes through constructing dams crossways the streams. Though, in spite of the great concern of the state to give irrigation facilities, around total irrigated land in south India constituted 3-7 per cent at the turn of the 19th century.

Organisation of Agricultural Manufacture

The Indian medieval economy was mainly, 'free peasant economy.' We do not get many references to peasant opting for society farming instead mainly peasants beside with his family members accepted on the manufacture procedure on individual foundation. In south India since well little peasant householder beside with his family labour shaped the vital element of manufacture. Though, those holding superior estates had to depend on 'regular inflow of additional labour.' In the Maratha country as big number of young populace joined Shivaji's army, state was anxious to ensure whether sufficient man domination for farming was accessible or not. Mainly in a village set up there lived three categories of land holders: higher castes, lower castes, and menial castes. Menial castes worked since agricultural labourers. Medieval north India, this method presents a contrast that on the one hand land was accessible in *abundance* on the other hand, there was attendance of big number of landless labourers. Stray references to forced labour are also recorded. In western Rajasthan Nais

were employed since forced labourers through the Rathors while *bhumias* forced Dhedhs to weed out grass from the meadows in the Jalor area. In contrast to north one discovers deficiency of labour force in south India. Alaeu argues that 'the deficiency of labour force was to an extent linked with the information that an appreciable section of the population from high castes measured physical labour since degrading and few agricultural operations since forbidden and constantly sought to avoid personal participation in the manufacture procedure... oriented to labour saving and not to land saving.'

Throughout our era of revise we get frequent references to migration of peasants and agricultural labour from one area to another. When a new village was colonized or rehabilitated the leader assumed the status of a *zamindar* in the territory. In the Maratha territories he was recognized since *patil* who normally assumes the grant since his *watan*. Peasants whom he usually brings for farming used to get *mirasi* rights.

The dominant agricultural castes in north India were Jats Ahirs and Rajputs who were directly involved in the farming. Brahmans usually used to get their land cultivated with the help of hired labour. In western Rajasthan *Kamins* are mentioned in the middle of the cultivators. In western Rajasthan Rajputs held larger rights in the area. They held the *zamindari* villages and not the *raiya* suggests that in the area it was a non-cultivating larger land holding caste. *Patels* were another non-cultivating caste in western Rajasthan. Their concentration was in Jalor area. In contrast the Jat villages were *raiya* illustrates that they were the cultivating caste in the region. Paliwal seems a peasant caste in approximately all the *parganas*. In the Maratha dominion usually the cultivators hailed from the Maratha class.

Besides these therefore described 'agricultural' castes one discovers many other castes that otherwise either belonged to artisan category or else to the lower strata in the social hierarchy possessed lands and were accounted since cultivators. Alaeu speaks of the attendance of local division of labour in south India. Malabar specialised in the manufacture of pepper and spices, while for rice it had to seem towards Gujarat, Coromandel, and Bengal.

Rustic and Forest Economies

Rustic Economy

Pastoralism was almost certainly present and scattered all in excess of and there lived intimate connection flanked by agriculture and pastoralism. In western Rajasthan pasturage were not only owned through the village society since general resource pool, rather a big number of pasturages were also maintained through the Rajput rulers in their *khalisa* territories. Beside the

riverine tracts that were usually flooded and where inundation was a general characteristic sedentary agriculture gave method to pastoralism and nomadism. Chetan Singh's revise on Punjab illustrates the attendance of big level rustic societies particularly in the lower Indus plains subsisting on rustic economy. Abul Fazl and Sujana Rai Bhandari observed the prevalence of shifting farming in the lower Indus plains.

Likewise, dry areas where scarcity of rainfall creates it hard to cultivate the meadows attendance of grassy and wild lands gave method to pastoralism. In these areas cattle herding became the chief source of existence. Throughout the medieval era per head cattle population was much more than what it was in 1900. Irfan Habib points out that the attendance of long wastes to sustain the big cattle population was the largest cause for this favorable ratio. He further argues that the attendance of big level cattle population resulted in the exploit of bullocks and not the bullock-carts for transportation of granules in the villages. Consequently rustic products like *ghi* were much cheaper in comparison to wheat in Mughal India. In Rajasthan *ghi*, wool and leather products were significant items of export. Mithila area, particularly Tirhut, in Bihar was well-known for its milk and curd preparations. Cattle were an essential section of the agricultural procedures, both, for the purposes of farming and water lifting.

Interestingly religious inhibitions restricted the usage of cattle population since a source of 'food'. In Rajasthan camel breeding was a significant economic action. Camels were not presently used since beasts of burden; they were also employed in agriculture. In western Rajasthan animal breeding was one of the significant jobs. Animals, particularly bullocks and cows were exported from the Marwar area to the neighboring regions. In western Rajasthan particularly Mallianaris Sanchori was well-known for good breed of cows. Peasants of Nagaur were recognized for bullocks breeding. However Mallani was also well-known for horse breeding, in common horse breeding was not an extremely significant profession instead Rajasthan was well-known for sheep and goat breeding. Raibaris and Gujars were chief rustic and itinerant societies who mainly involved in animal breeding in Rajasthan. Nuniz mentions that the area approximately Bankapur was rich in seed-plots and cattle breeding farms.

Forest Economy

Throughout the medieval era the extent of forest reserves was much more than what it is today. However agricultural products shaped the mainstay of India's economy, revenue from forest products was equally significant. It continued a number of manufactures particularly related to timber, mulberry, honey, animal skins, etc. Approximately ten per cent of the resource contribution was from tribal sector. Timbers from the hills were floated down the river routed to several timber

marts in the plains for onward consumption. Chetan Singh has highlighted the importance of timber for boat-structure beside the river cities in Punjab. Wazirabad on river Chenab was recognized for its boat-structure behaviors. It received the timber-logs via river Chenab from the hills. Western Ghats were recognized for its manufacture of good excellence teak, rated after that to Malabar teak. Its manufacture in the area provided great boost to shipbuilding industry. Shivaji's shipbuilding behaviors were situated in Kalyan and Bhiwandi which were well-known for its timber manufacture.

Babur mentions good excellence of Kabul rhubarb that was in turn coming from western Himalayas. *Majith* or madder used since dye, particularly dying the coarse woollen cloths, through the Bhotias. Gumlac, another type of a dye, was procured from the western mountains. Musk, an animal product, was another mainly sought after article establish in the western Himalayan area stretching from Kashmir to Assam. Ivory from elephant tusks was another product in demand in the middle of the nobility. We get numerous proofs of Mughal emperors challenging tribute in the shape of forest/hill produce/ rarities. Shahjahan's daughter Jahanara's letters addressed to Raja Budh Prakash of Sirmur illustrates that the Raja sent to Princess Jahanara ice, musk, pomegranates, and sal wood from Kalaghar forest.

Agriculture and the State

Irfan Habib basing on Barani's analysis that 'heavy taxation affected agriculture' argues that there lived a 'connection flanked by land revenue and agricultural manufacture' and 'a decline in agriculture caused a corresponding fall in land revenue.' He attracts a paradox that while Muhammad Tughluq's heavy taxation provoked an agrarian rebellion of great intensity in *Doab*, he was also the first Sultan to chalk out a systematic policy of improving agricultural manufacture. He recognized a distinct department of *amir-i kohi* headed through a *diwan*. To bring in whole *Doab* under farming he appointed a number of administrators each holding the responsibility of bringing in 30 *kurohs* of land under farming. Barani laments that under the project 70 lakhs of *tankas* were distributed but hardly 'a thousandth or hundredth section' was brought under farming. Whatever might have been the result of Muhammad Tughluq's attempts it nonetheless brought forth the concept of extension of farming through bringing in new regions under farming. His attempt to bring in the concept of adding more high value crops through replacing the lesser value crops was equally significant.

Peasants heavily depended upon state and the rich strata for conducting agricultural operations. Ordinary peasants were often short of seeds, required extra money to irrigate the land or dig a well; or else for even ploughing the meadows.

State played pivotal role in funding the irrigation projects. Canal irrigation was approximately entirely dependent on state or nobles' initiatives and findings. Even constructing a brick-lined well was beyond the means of ordinary peasant. For the first time, Muhammad Tughluq throughout *Doab* famine extensively distributed loans in the middle of the peasants for the construction of wells for irrigation purposes and to expand agriculture. Later, under the Mughals such pre-harvest loans came to be recognized since *taqavi*. Dilbagh Singh mentions that in eastern Rajasthan it was the state's prime concern to construct new wells and upkeep the old ones. Aurangzeb in his *farman* to Rasikdas also raises the similar concerns.

Shivaji instructed his administrators to advance money to the cultivators for purchasing bullocks, seeds, etc. Peasants were to pay back the balance in simple installments. Shivaji ordered in 1676 to the *subadar* of Prebhaveli *mamla* to pay visit to all villages to discover out the requires of the cultivators whether they were in possession of enough amount of seed, plough, oxen for farming, if require arises, to distribute advances. But state assistance was not always enough and several a time peasants had to bank on village *mahajans* in such cases often he had to pay double the amount. State's prime concern was to encourage peasants to bring since much land since possible under farming. State lured them through taxing nominal amount only.

Monopolies and State Interventions

The market forces commonly and mainly determined medieval agricultural markets. Though, Alauddin's market manage events was one such example when state tried to intervene and attempted to manage prices. But the venture collapsed soon after his death.

Nonetheless we regularly encounter the 'monopolising' tendencies on the section of the state. Mining all by the medieval era was state's preserve. Even exploit of grafting technique remained restricted for the Royal gardens. The ban was lifted in Shahjahan's reign. The manufacture of *chay*, a dye produced in the eastern Deccan was totally controlled through the king. There is a motivating case of indigo monopoly exercised through the Mughal ruler Shahjahan throughout 1633- 35. Indigo was the mainly sought after agricultural product. The emperor's move was motivated through 'profits involved'. Shahjahan entrusted monopoly rights to Manohar Das Danda granting him the sole right of buying indigo of the empire on payment of Rs. 11 lakhs. All merchants were asked to purchase indigo from him. It fell heavily upon the peasants. Several peasants anticipating the slump destroyed their crop. They received much a lower rate for their labour. Shahjahan then tried to handle the situation through cultivation out the farming rights to Mir Jumla. But imperial monopoly could hardly last a year and the emperor was forced to withdraw. Mughal annual revenues from salt monopoly at Machhlipatnam alone constituted around Rs 110,000.

AGRARIAN STRUCTURE: RELATIONS

Agrarian Class Building: The Zamindars

We can begin with a brief discussion of the institutional means of access to rural possessions by the organization of rights to surplus produce. The image of the Mughal empire portrayed through Irfan Habib is that of a highly centralized state that extracted a big proportion of the peasant's surplus by an elaborate organization of revenue taxation. The redistribution of these possessions came to be the principal mode of securing the military might of the empire and the loyalty of its political mediators. The bulk of the possessions of the empire were distributed in the middle of the nobles or *mansabdars* by transferable *jagirs*. A subordinate share of the revenue accrued to the hereditary holders of larger rights in land, collectively termed the *zamindars*, whose participation in the organization was essential not only on political consideration but also to facilitate the procedure of revenue collection from the peasantry.

Zamindars in Mughal India were socially a heterogeneous cluster. Their location, rights since well since obligations varied a great trade. For purpose of analysis Nurul Hasan has classified the *zamindars* into three categories – autonomous chieftains, intermediaries and primary *zamindars*. Also there was a latent thrash about for land, domination and power in the middle of them. Therefore effort of better Rajas to bring intermediary *zamindars* under manage was a continuous characteristic. The *zamindars* since a class were also divided on caste/ clan/tribe rows. The Mughals tried to utilize disagreements flanked by several parts of the *zamindars* for their own purpose both in conditions of hierarchy and caste composition. The heterogeneity of the *zamindar* class requires to be accentuated in order to understand their multiform activities.

Despite this inherent weakness the *zamindars* since a class constituted a formidable unit in medieval Indian community and polity. They were in managing of tremendous territorial and revenue possessions. From the point of view of military possessions they were a domination to be reckoned with. The total military strength of the *zamindars* just as to Abul Fazl stood at 4.4 millions. Moreover the *zamindars* were strongly entrenched into the rural community and dominated it through virtue of caste links and customary ties. They were the mainly significant link to gain access to regional possessions. The Mughals were faced with the problem since to how to curb the domination and power of the *zamindars* in the interest of a centralized state, and how to attract them into the task of management for the sake of continuity. The working of the Mughal revenue organization depended upon the skill of the Mughal govt. to overawe the *zamindars* with their larger military might.

At the similar time the Mughals tried to resolve the vital contradiction flanked by the two which centered approximately the question of sharing and redistribution of revenue possessions. The *zamindars* were integrated into the Mughal administrative tools to the extent that they had become partners, albeit unequal partners of the Mughal ruling class in its use of the peasantry. The Mughals endeavored to convince the *zamindars* that it was more profitable for them to seem for the support of the state rather than defying its power. A little portion of the *mansab* holders such as the Rajput, Baluch and Ghakkar chiefs belonged to the *zamindar* class. They were granted *jagirs*. The Mughals integrated the *zamindars* with the land revenue management for realizing land revenue from the peasants. At the regional stage Mughal state also remained mainly dependent on the *zamindars* for the implementation of its agrarian policy particularly the expansion and improvement of farming. A share in the *jama* or revenue was also allowed to them since compensation for services rendered to the state.

Though, the biggest source of clash flanked by the *zamindars* and the Mughal state was the mass of the former's share in the surplus produce. Irfan Habib has pointed out that the *zamindar's* share was restricted not only through imperial rules and regulations, customary practices, but really much more through the information that the high pitch of revenue demand left small with the peasants to be taken through anyone else. Hence conflict of interest flanked by the two.

The Mughal policy towards the *zamindars* was contradictory. Abul Fazl and Mughal chronicles of the 17th century used the word *zamindarana* in the sense of opportunism or disloyalty. From the official point of view the *zamindars* were regarded since largest danger to law and order and reluctant to pay land revenue. That the Mughals were not able to overawe the *zamindars* is totally obvious from their categorization of the *zamindars* into *zortalab* and *raiya*. Nor did the Mughals succeed in isolating the *zamindars* from the peasants. The *zamindars* never gave up the ambition of enlarging their rights. Yet the Mughals depended heavily on the *zamindars* and they themselves strengthened their location in the rural community.

We can infer from the proof of the Mughal era that the thrash about flanked by the imperial management and the *zamindars*, breaking out regularly into armed clash, was a significant characteristic of the political situation of the time. Manucci wrote approximately 1700 that Mughal governors are in a consistent state of quarrel with the *zamindars* and that generally there is little rebellion of *zamindars* going on in the Mughal kingdom. It is apparent that the Mughals could not finally resolve the vital contradiction that revolved approximately the appropriation of surplus.

The possession of *zamindari* right not only implied dominant location and higher social status in the rural community but also conferred sure economic advantage which made the *zamindari* right highly precious. His principal fiscal right was to demand *malikana* from the *raiya*. In addition the

zamindar also claimed several customary perquisites on several occasions in rural social i.e. cess at the time of marriage, birth, festival, etc. He had also the right to demand *begar* on the foundation of customary practices from peasants, artisans and menials. *The zamindar* was also entitled to pay land revenue at concessional rates on their personal holdings. In *pargana* Merta the *zamindars* possessed nine per cent of the total cultivated land and paid only Rs. 19 since land tax whereas the normal tax burden amounted to Rs. 200. *Zamindars'* land holding was also exempted from the payment of general village expenses and several other taxes. A substantial section of his holding was devoted to the farming of cash crops since he was in a location to give necessary inputs. There is also proof indicating that a section of his liquid capital was invested in usury. That the *zamindari* right was measured worth possessing is apparent from the point that there was an ever-growing tendency on the section of many members of dominant castes to make new *zamindari* rights in *raiya* villages. There are also instances of establishment of *zamindari* rights by forced sale.

The higher social status of the *zamindar* was manifested in the diversity of customary rituals he performed in the social life of the village society. It was his customary privilege to beat the drum at the time of arrival and departure of a marriage procession in the village. The bridegroom was required to call upon the *zamindar* and offer him presents. It was obligatory on section of the *raiya* to extend invitation to the *zamindar* for a feast at the time of marriage. Flanked by the *zamindar* and a part in the middle of the *raiya* there lived a connection of mutual dependence. The economic aspect of this connection was of primary importance. The *zamindar* that possessed substantial holding was dependent on the peasants for its farming.

The unequal clash with the mighty imperial domination compelled the *zamindars* to adopt a conciliatory attitude towards their peasants who would have become their allies. It is quite likely that the peasants and the *zamindars* could have conflict of interest in excess of the section of the surplus that latter claimed. It is, though, extra ordinary that this contradiction did not fully develop in the Mughal empire. On the contrary the official view since reflected in *Alamgirnama* was that the *zamindars* usually supervised to stay the peasants conciliated. Caste and traditional ties were possibly factors in preserving and strengthening bonds flanked by the two. The role of caste is obvious in the case of the Jats and the Maratha rebellions. One, though, cannot visualize a uniform pattern of connection. The connection flanked by the two depended on several factors such since caste composition, customary practices, state of economy, and strength of the peasant society and the nature of administrative manage.

The question arises that what were the procedures whereby the *zamindars* and the peasant came jointly? The rising pressure of revenue demand not only fanned peasant resistance but also compelled big number of *zamindars* to turn to rebellion as they were not only the collecting power

but also had permanent interest in land which coincided with those of the peasantry. Secondly, the *zamindars* also commanded a traditional loyalty from few of their peasants. Several of the armed retainers of the *zamindars* were peasants. They served the *zamindars* either because of caste affiliations or in return for economic thoughts. These peasants could be drawn into adventures that *zamindars* might undertake in pursuit of own feuds or ambitions. The *zamindars* and the peasants joined each other in rebellion in two situations. Distress owing to rising pressure of land revenue which affected both the peasants and *zamindars* and in the second the thrash about was essentially that of *zamindars* in which the peasants were primarily involved owing to customary allegiance. The Jat and Maratha *zamindars* had a definite social foundation in the middle of peasants of their castes. The widespread disturbances in at least two areas – Agra-Eastern Rajasthan and Mughal Deccan were set in the backdrop of a resurgence of *zamindari* domination on the one hand and rising tendency to use the peasant on the other.

J.F. Richards has questioned Irfan Habib's formulation that the *zamindar* raised in rebellion since a result of the rising pressure of revenue demand on the rural community. His counter argument is that growing manufacture and monetisation placed the *zamindars* in more advantageous location. The regional *zamindars* had gradually gained a military advantage vis-à-vis imperial army. The Mughals did not have the will and possessions to disarm aggressive *zamindars*. Instead the extensive term effect of Mughal agrarian organization on the rural community increased the confidence and possessions of the *zamindars* which encouraged them to enter into clash with the other prominent clusters. Though, what is indisputable is the information that the Mughals could not uphold the social balance which was the foundation of the therefore described 'Mughal continuity'. The conflict of interest flanked by the *zamindars* and the state and flanked by dissimilar parts of the *zamindars* could not be resolved. These disagreements just as to Nural Hasan led to frequent clashes, disturbed law and order and seriously weakened the administrative and military domination of the state. After the death of Aurangzeb in 1707 the Mughal management became too weak to uphold the social equilibrium. The Mughal empire was waning and it was the *zamindars* that were exerting themselves.

Peasant Stratification

The village population comprised dissimilar parts and categories of people, each with dissimilar functions and status. The larger part of the village community was collected of *zamindars*, *muqaddams*, *chaudhari*, *qanungo*. They owed their status partly to hereditary larger right in land and partly to their location in the tools of revenue management. The *jagirdari* organization did not alter

the building of rural community. From the economic standpoint, though, the mainly significant part of the village population comprised the cultivators who are collectively referred to since *raiya*. The conditions *raiya* and *asami* are often used in common sense to denote peasants. Other conditions such since *khud-kasht*, *pahi*, *muzara*, *hali* were specific to dissimilar parts within the peasantry and hence not interchangeable. They were differentiated from the *kamins* and other occupational classes who could also engage in farming. Both numerically and because of their role in the village economy and community the agriculturists dominated the village.

The peasant population in several villages was overwhelmingly of the similar caste, often of the similar lineage cluster. Even in the 18 century a village could easily be recognized since a Jat, Ahir, and Gujar, Meena or Rajput village. The peasant proprietors were termed *khud-kashta* and those cultivators who did not have lands of their own were recognized since *muzarian*. The *khud-kashta* shaped majority in the middle of the peasants. Less numerous than the *khud-kashta* were *pahis* who were essentially migratory cultivators. They could be either residents of neighbouring villages or those who had deserted their original villages. Separately from the *khud-kashta*, *pahi* and *muzarian*, a part of the peasants comprised share croppers and *halis* or *majure* who had overlapping positions and fluctuating rights. The dividing row flanked by the *muzarian* and *halis* was the possession of ploughs and oxen. There are references to peasants who sank to the status of *mujur* or *hali* due to the loss of agricultural assets. The categorization of the rural population was therefore based on 1) Caste and job, 2) residential status, and 3) the nature of rights in land. The location of each resident in the social hierarchy of village was most determined through these factors. The possibility of transformation from one rank to another within the rural community, necessity also is taken note of. *Khud-kashta* could sink to the location of tenant or *pahi*. *Pahi* could rise up the hierarchy and become peasant proprietor. Agricultural laborers improved their location through acquiring ploughs and bullocks.

There was a huge variation in the resource location of individual peasants. This is indicated through references to peasants who cultivated big holdings through hiring in full time agricultural laborers. They also possessed a number of surplus ploughs and bullocks which they rented out to the needy peasants. Since for the little peasants, however they might be the owners of their holdings, quite often did not have sufficient possessions and looked to the richer part for the supply of agricultural since well since consumption loans. In order to show big intra cluster stratification and disparities in the sharing of land and agricultural implements we may refer to few documents from eastern Rajasthan.

The Notion of Domination

We can seem into the factors which created within the peasantry socio-economic disparity and situations of domination for few and powerlessness for others.

Sources of Domination Within the Peasant World

The relationship flanked by caste and domination is slightly complicated. The complication arises because one has to believe both ritual ranking since well since the domination that accrued to them or was appropriated through them in the economic and political sense because of their favorable location in that hierarchy. There was the division of peasants into the categories of *khwud kasht*, *muzarian*, *pahi*, *hali* and menials. The question if whether or not the caste composition of each of these categories broadly corresponded to their status. Caste was also the foundation of the divisions of agrarian class 'into caste peasantry on the one hand and the menials on the other. Though, the situations cannot be understood merely in conditions of the powerful high caste vs. the powerless low caste notion. Without undermining the inequalities created through the caste organization, we may argue that caste did not make circumstances of complete and total domination for few and utter powerlessness for others.

Caste was an entitlement to material well being since there was considerable variation in the economic positions of several castes. Upper castes were also assessed at confessional rates. Caste ties prompted peasants to communal activity.

Land and Possessions

From the unequal access to land and possessions arose many imbalances and dependencies in rural community. The possession of possessions needed to cultivate land was a significant source of domination. It instantly increased the possessors reckoning in rural community since well since in the eyes of the state. Our documents, whenever they list the *asamis* of scrupulous village or those who migrated from elsewhere to bring land under farming, mention the numbers of plough and oxen held through them. We know of poor peasants who depended on those who possessed surplus implements. Possession of possessions was therefore valued that it also became an entitlement to more favorable treatment in the allocation of land and higher status.

Lack of possessions resulted in several shapes of agrarian dependence. Agricultural labourers represented the mainly extreme shape of agrarian dependence. Widespread indebtedness also reduced the autonomy of the peasants in cropping decisions. Indirect interventions in the labour

procedure of the peasant proprietor or *khwud kasht* could have been exercised by the manipulation of the conditions of debt repayment. In one example we discover the money lender challenging repayment of grain loan in the shape of raw cotton after the harvest.

Money

Those who possessed money wielded considerable domination. It is best apparent from the location and status of money lenders in rural community. It was a domination that arose out of the strength of their purse. Approximately all parts of the rural community depended on money lender in one method or the other. It was on the strength of their money that the money lenders acquired land, hereditary offices and tracts in *ijara*. Infact they were emerging since strong competitors to traditional leadership of the village. Poorer part of the village community was critically dependent on credit offered through money lenders. Indebtedness intensified use even then we approach crossways instances of peasants siding with moneylenders against *zamindars*, etc. It was in the big level purchase of offices that the importance of money in domination play is best exemplified. Money became an alternative source of gaining access to agrarian possessions.

Categories of Peasants

Within the village peasants they were stratified into number of categories on the foundation of the nature of holdings.

Khwud-Kashta

The term *khwud-kashta* implied hereditary ownership of land and the right to sell or mortgage it. The essential characteristic of this tenure was the possession and exploit of personal ploughs for tilling the land holding owned through the family. *khwud-kashta* had the right to get back his holding even after the lapse of 10-15 years provided he cleared revenue dues. The upper caste and richer *khwud-kashta* relied on full or section time labour for cultivating their holdings since their women did not job in the meadows and the Brahmans and Rajputs did not plough land themselves. In their case the exploit of hired labour irrespective of the mass of land holding was indispensable. The number of ploughs owned through a *khwudkashta* was a measure of his status. A part of the *raiya*t who did not own ploughs had to lean heavily on that *khwud-kashta* who possessed surplus ploughs.

The richer part of the *khwud-kashta* and larger caste peasants enjoyed tax concessions and leading positions in the rural community. The *khwud-khasta* status also included complete or incomplete exemption from payment of general village expenses. In short, the *khwud-kasht* were relatively well off peasants, owners of the best land, possessors of numerous ploughs and bullocks and in addition enjoying a favorable tax rating. It was also noted through the Mughal management that the richer part of the *khwud-kashta* at times manipulated to shift their burden on to the general peasants. They also tried to repress the little peasantry through converting the raiyati holding into their *khwud-kashta*. Officially, the conversion of raiyat kashta land into *khwud-kashta* was prohibited. Despite official restriction this trend asserted itself slowly. The richer part who had possessions at their disposal, were involved in the purchase and mortgage of land holding belonging to the possessions of the poor peasants which led to the growth of share cropping and tenant cultivation.

The *khwud-kashta* were expected to implement the agrarian policy of the state because of their skill to invest capital require for expansion and improvement of agriculture. It was noted through the management that a part of the *khwud-kashta* could uphold farming even in lean years while majority of the little peasants would provide up farming. It was an awareness of this situation that enabled the well off *khwud-kashta* to consolidate their location vis-à-vis the state and weaker part of the village society.

The Pai Kasht

The *pai* or the *pahis* were those who came from villages other than the village where they resided. The location and the nature of their land rights varied depending on their caste, duration of keep, their agricultural capital, availability of land and the customary practices of the region. They were mostly inferiors in caste and status. Occasionally, those from the upper castes also became *pahis*. However through and big poor no summary conclusions in relation to the economic circumstances are possible. Those with ploughs and bullocks were bigger off and they were more likely to be singled out through the state for concessions. By the offer of payment of land revenue at confessional rate, through extending help in the construction of hutment, by preferential treatment in the allotment of cultivable waste, the *pahi*'s possessions and labour potentials were put to exploit in the interest of the state.

There were two categories of the *pahis* the first may be termed non-resident cultivators. They generally came from neighbouring villages and cultivated land without becoming the resident of the village, tilled the land since tenants and had no right to sell or mortgage it. The *pahis* were induced to develop newly colonized and depopulated villages and they were charged land revenue at a

concessional rate. This sometimes made the *pahis* even bigger off than the resident cultivators, but being outsider, they did not have social status.

The second category of the *pahis* was essentially migratory cultivators who came from distant off villages and *parganas*. The extent of the mobility of such peasants is apparent from the information that they came from distant off areas. In 1665 four hundred *pahis* migrated from the Deccan and settled down in 36 villages of *pargana* Malrana in Rajasthan. The *pahis* brought 416 ploughs beside with them. The migrant *pahis* were offered attractive conditions on two consideration: 1) they had to leave their ancestral villages, and 2) because of their agricultural capital. They were permitted to construct their hutment in the village through undergoing the custom of *chhaparbandi* and acquire the resident status. In due course of time they could change themselves into *Khwud-kashta*.

The causes for the migration of the *pahis* are sometimes mentioned in the document. Famines, wars, oppression, through regional authorities, excessive taxation, demand for revenue arrears, indebtedness, non availability of credit, search for bigger conditions and circumstances are all cited since causes for migration. Late 17 century document from eastern Rajasthan *patels* and raiyats of tappa Phagi migrated to Aurangabad due to famine. The census of 78 villages of *pargana* Malarna in relation to the 10% were migrants, 7% from the neighbouring *parganas* and 3% arrived from Deccan and Malwa. In relation to the 4% of the cultivators had also emigrated from the *pargana*. The recognition through the state of the skill of the peasants to migrate in search of bigger circumstances and thereby affects the states' revenue constituted a basic unit of the state agrarian policy. There was a part in the middle of the peasants prepared to migrate if bigger conditions were accessible elsewhere. It is also apparent from our documents that the *pahis* were less numerous than the *khwud kashta*.

The Muzarians

The *muzarian* were, since a category of cultivators less privileged than the *khwud kashta* and were occasionally dependent on the village money lender, *zamindar* and headman for bullocks, ploughs and seeds, etc. The *muzarian* belonged to two separate categories, namely state tenants and tenants of larger part. State tenants were those who cultivated surplus land and land abandoned through few *khwud kashta* in the village under specific conditions and circumstances mentioned in the patta issued through the state revenue officials. There used to be competition to draw tenants on the section of the state officials, *madad-i maash*, and *inam* holders.

The location, rights and economic circumstances of the state tenants rested on such concrete circumstances since the availability of cultivable waste and the nature of implements owned. Tenants

who had implements of their own were preferred through the state. They could bargain with the officials for securing pattas on favorable conditions. The conditions of tenancy varied. Few of them worked since short term contractors, cultivating a scrupulous land holding for a single harvest or for an era of one year, but the contract was renewable. Few documents land revenue demand on the state tenants was 40% of the produce on the farming of *banjar* and 50% where the land cultivated was *polaj*. In course of time a part of state tenants, originally assigned to cultivable waste, became settled and acquired hereditary occupancy rights in excess of land.

The second category of the tenants tilled the personal lands of the larger parts and other wealthy peasants who depended upon tenant cultivators partly owing to the social factor and partly due to the pattern of land holding. A big proportion of land was held through the dominant and richer part which was partly let out to the tenants. Whereas the state tenants paid only land revenue to the state these tenants had to pay in addition rent or *malikana* to the owner which came to in relation to the 15% of the produce. If we add it to the 40 to 50% taken absent since state revenue, the share demanded from the tenants can be computed to 55 to 65% of the produce. The proportion could go even higher if the tenant did not have required agricultural inputs and borrowed them from the owner. Several of these tenants were in debited to the owner. The subsistence of such tenants in spite of the great *abundance* of cultivable land can be explained in conditions of their inability to invest in their holdings.

Share Croppers

Share cropping is also a shape of dependence. It cannot be equated either with unsociability or landlessness. It arose out of poor peasants inability to get sufficient from his holding or his poor resource location. *Sanjha* entailed a specific manufacture connection flanked by investment and labour and flanked by investment and redistribution. Under this arrangement one cluster provided necessary investment or productive possessions and labour domination was provided through another cluster. Under the *sanjha* tenure the resource poor peasants cultivated land conjointly with the *zamindars* and other wealthy cultivators who resorted to this arrangement because of their substantial land holdings for which they could not give required labour and personal supervision. Little peasants complemented their income through working on *sanjha* holding. In few cases, the land was owned through the *zamindar* but inputs or cost of manufacture was shared through the *sanjhadars*.

But mostly, it was the proprietor who bares the cost of manufacture. A special characteristic of the *sanjha* was the differential revenue assessment for the two parties of *sanjha*: the *zamindars* were assessed at concessional rates and the peasants were required to pay normal rates. Moreover, the *sajha* holding was not liable to exemption from *malba* dues.

Agricultural Labourers

The caste factor necessitated a sure supply of hired labour. A big reserve for such labour was supplied through the menial castes. Separately from the landless menials a part of the little peasants was also accessible to render section time agricultural labour. There are numerous references to full time and section time agricultural labourers who were employed through dissimilar parts of the rural community. The *halis* are categorized since *Brahman ka hali*, *Rajput ka hali*, *zamindar ka hali* and *gaon ka hali* signifying agricultural labourers under the employment of the upper caste cultivators, larger parts such since the *zaminder*, village headman and those who rendered labour within the frame job of the village society. Therefore in one village in eastern Rajasthan out of 28 *halis* ten were hired through the richer part and the rest served the village society. Few of the *halis* belonged to the agriculturist castes. Therefore in a village of *pargana* Barsana out of 40 *halis* 5 belonged to the transitional caste and the rest were artisans and menials who incorporated Khati, Lohar, Nai, Kumhar, Teli, Mahar and Balahi. Female *halis* were also employed. Therefore in a village of *pargana* Barod out of 8 *halis* 5 were male and 3 were female *halis* who belonged to Jat and Ahir castes. In the majority of cases, full time *halis* were employed for an era of 3 to 4 months and received monthly wage.

Therefore in village Umaheri out of 5 *halis* 4 were paid monthly wages at the rate of Rs.2 and the 5 designated since Chamar received Rs.1.50 per month. Female *halis* were paid lower wages since compared to their male counterparts. In village Bhawro two elderly Ahir female *halis* were paid 1.25 per month and one young Jat female *hali* was paid Rs.2 per month. The *halis* were also given a little fraction of food crop produce. *Gaon ka hali* or those employed through the village society rendered agricultural labour at sure eras of peak agricultural behaviors such since sowing, harvesting, weeding, etc. They were paid by a share of the produce. Their share in the produce varied shape 0.50 to 1% of the gross produce. They were also allotted little plots of land in lieu of services rendered to the society.

The Kamins

The *kamins* shaped the lowest rung in the social hierarchy of the village. They are also referred to since paoni and *begaria*. They served to cater to the village society necessities for agricultural implements since well since labour. The low castes such since Chamar, Balahi, Thori, etc. worked since the village menials and also supplied agricultural labour to the village society especially in the busy season. It is not entirely clear since to what was the status of cultivators

belonging to the professional and service castes i.e. *kamins*. Irfan Habib is of the opinion that the hereditary division of labour imposed through the caste organization prohibited the low castes from acquiring the status of peasants thereby creating a 'fixed reserved labour force for agricultural manufacture.' But there is ample proof to illustrate that *kamins* could become full time agriculturists. We can divide the *kamins* into two categories 1) who performed services to the village society and also rendered begar to the larger parts on customarily fixed share of the grain heap before the payment of revenue. Second category of the *kamins* was agriculturist, paying land revenue to the state. They were exempted from begar and payment of taxes on their caste related professions. Khati, Teli, Kumhar, Kalal and service castes such as Chamar, Balahi and Nai are referred to since *asami* land or tax payers. In few villages they constituted 10 to 17% of the recorded *asamis*. Our proof designates that the number of cultivating *kamins* was significant and widespread.

Despite official restrictions on the expansion of khud kasht holding at the cost of *raiyat* land, this trend asserted itself slowly. The resource rich *khwud kashta* were involved in the mortgage of lands of the *raiyat* on a big level. The best agricultural land therefore tended to pass into the hands of this moneyed class. This caused acute tension flanked by the privileged and under privileged categories of cultivators in their joint petitions the unprivileged demanded that these be limited to their actual land holdings and should not be extended to land acquired from the unprivileged i.e. exemption from *malba*. This brought in relation to the new connection into the village community, namely flanked by the richer and poorer part of the peasants who were reduced to the status of tenants and dependent peasants. The extension of the *khwud kashta* holdings had many implications for the function of the village society. The well to do *khwud kashta* who were able to consolidate big holdings, with consequent demand for increased labour supply, used their status and capital to stay the *raiyat* poor and dependent. When a little peasant in adverse conditions had to barrow money or grain for existence, the rich *khwud kashta* lent money on the mortgage of land. In one example they mortgaged 175 meadows out of 350 belonging to the *raiyat* at the time of famine and scarcity. Often the richer *khwud kashta* let out the agricultural land they had acquired to the erstwhile peasant proprietor on condition of paying rent. Several *khwud kashta* therefore transformed themselves approximately totally into renters.

The richer part could uphold farming even in lean years while majority of little peasants were difficult pressed to cultivate even little holdings. It was an awareness of their situation that enabled the privileged and richer part to consolidate their location in the village society vis-à-vis the state. The management could not have been wholly insensitive to these realities. In order to protect the interest of the ruling class the state power maintained social and economic disparity one reinforcing the other. The state had to uphold the richer clusters within rural community since few type of

insurance for continuing farming in lean years. The state also realized that it was the rich clusters which could expand farming and engage in farming of larger crops.

The net result was raising inequality resulting in turn to the concentration of land at the higher end and augment in the number of dependent peasants on the other. This information is vividly brought into focus through the petition filed through the *raiyat* of village Phagi. They complained that earlier they owned 700 ploughs and now they own presently 28 ploughs. Several documents testify to the deteriorating condition of the *raiyati*. In village Pahari the number of ploughs belonging to the *raiyat* fell from 300 to 50. Their rising pauperization was accompanied through an ever rising burden of debts which ultimately deprived several peasants of their meadows and wells. The economic disparity in the village society grew and the accumulation of capital enabled the richer part to use the poor strata of the peasantry more intensively. The type of equilibrium and the connection of interdependence created through land *abundance* situation collapsed due to the working of economic forces. The result was that the number of tenants and dependent peasants increased without any corresponding augment in pressure on land and the domination of the richer part grew further. With the pauperization of a big part of the peasantry and concentration of wealth in a little part, the rural community in the 18th century therefore became more unequal and segmented than before. In view of the several shapes of dependence and interdependence that lived in the rural community it would be conceptually more accurate to view the individual cultivating family element since section of an intricate manufacture organization. This was particularly therefore because of the information that manage in excess of regional capital was restricted into the hands of rural elites and moneylenders.

Credit Relationships and the Money Lenders

Peasants' requires and demand for loan can be attributed to their

- Revenue obligations
- Subsistence and seed loans
- To build up agricultural assets and
- To meet social obligations.

Irfan Habib on the foundation of the 18 century proof from Bengal states that the peasant took loan mostly to pay land revenue. In Rajasthan loans were obtained to buy seeds, to dig wells, and for personal consumption, etc. There is a clear indication of the significant role of credit in agricultural manufacture. The largest sources of credit throughout the medieval era were *bohras*, *mahajans*, *sahukars* and the State. These were not two competing alternatives but complimentary to

each other. Loans to the individual were mainly provided through the *bohras* and the loans on big level were usually collectively made to the *raiya*t through the state. The loans were given for the growth and agrarian restoration, colonization, etc. and when *bohra* was not accessible or he was reluctant to offer money on credit to the needy peasants.

Irfan Habib considers that the development of money lending was approximately an inevitable accompaniment of demand for land revenue in cash. It did not really generate any agricultural capital, but merely marked a parasitical development on agriculture. Though, our proof from Rajasthani documents designates that credit from private money lender was intrinsic to the organization of agricultural manufacture and the money lender provided useful service to the peasant society, enabling them to uphold farming 20 cultivators and survive in lean years throughout the *Rabi* harvest, to dig up wells with the help of money lender. The state too established the significant role that they played in the rural economy in the context of the dominance of 'existence sector' and in regions where manufacture was uncertain due to geographical factors. Money lending in the rural regions was not restricted to the Bania caste, Brahmans *Sanyasis*, *chaudhuri qanungo*, *zamindars* and rich cultivators also worked since money lenders. Few *mahajans* combined it with deal and agriculture. Rural magnates who combined there behaviors and in few cases also held administrative office lived in the 17th-18th centuries. In disagreements concerning mortgage of land it was this category of rural magnets that were involved. In addition to lending money rural rich also hired out wells and other assets. Money lending was widespread in the rural community, since instances of *raiya*t of *parganas* in eastern Rajasthan falling under debt are numerous. In Rajasthan *tagai* was not interest free. Nine per cent interest was charged on loans both in cash and type.

The rate of interest in eastern Rajasthan ranged from 9 to 25%; in Marwar area it was 10 to 36%, while in Maharashtra it ranged from 37.5 to 60%. The rate of interest was higher on unsecured loans and lower rate was charged where security was offered. State helped in securing repayment of loans provided it were not more than 10 years old. No help was extended where the state realized that recovery would adversely affect peasant manufacture. State also imposed restriction on the operations of the *bohras*. These were aimed at restricting the degree of use since well since to ensure uninterrupted farming. Peasant's response to excessive demand of the *bohras* usually resulted in the desertion of the village. In order to prevent desertion of villages that the state issued instructions to that regional official that 1) *bohra* should not harass the *raiya*t for the payment of old loans; and 2) repayment should be made in accordance with the harvest output. Common principal in regard to all loans was 1) repayment of fresh loans soon after the harvest 2) recovery of old loans if current harvest was very good; and 3) installments should be fixed just as to the paying capability. The state also fixed restrictions to the maximum limit for compound interest. The total debt should not exceed

twice the principal amount. In situation of acute distress of the raiyat a moratorium on all repayments of loans was imposed for the time being. These restrictions, though, necessity not is taken to imply an antagonistic connection flanked by the state and the *bohra*. The *bohra* served a big number of little borrowers and the state fully realized the significant role played through them in the rural manufacture organization and marketing thereby ensuring the flow of revenue to the state. The rationale for restriction lies in the objective of the state to subordinate the claims of the *bohra* to its own revenue demand. An integral section of the policy to regulate and limit *bohras* exaction was the provision to extent state *taqavi* when the *bohra* refused to offer loan. *Bohras* were also encouraged to offer loans supported through official assurances for recovery. These assurances were crucial in allaying the private *bohras*' fear of default in condition of uncertain manufacture or desertion through the peasantry.

The Village and the Village Society

The village was both a primary territorial locus and a revenue element. The village was viewed since a discrete entity not only in conditions of its physical legroom but also in the sense of a social communal represented through the village society with the *muqaddam* since its chief spokesman. This is mainly clearly brought out in symbols made to the higher authorities through the *muqaddam* pleading on behalf of the whole village on a diversity of issues general to the entire cultivating society.

In the official writings of the early British officers on the Indian rural community the village societies are recognized on the social basis of the peasant economy in India. The village society is characterized since a closed corporate basis depending on little level manufacture to meet its own necessities. Just as to the British official writings India was a land of small village republics and the people of India lined under this easy shape of municipal government or little republics. Sir Charls Matcalfe defines the character of the village society since small republics approximately self-governing of any foreign dealings and unchanging in character. He also whispered in the interdependent society character of the several classes of inhabitants livelihood in the village. James Mill confirmed his belief in the village society since a corporation. Sir Henery Maine establishes the Indian Societies since an organized self acting cluster of families exercising a general proprietorship in excess of a definite tract of land. Just as to him there were two kinds of village societies:

- In which the village power was lodged with the village *panchayat* and
- In which the power was in the hands of village headman.

Elphinstone also whispered in the concept of Village society since being a shape of municipal organization with few regional jurisdictions. He also asserted that:

- The village society was not a universal phenomenon in India.
- we also maintained that not all the classes of functionaries existed in every village and that within the village the waste land was owned through the state rather than the Village society.

Baden Powell assumed that the concept of Village society was associated with the land revenue organization and that the Village society was not invariably the easy subsistence of a primitive age. He did not agree that the Indian Village was inherently democratic or republican in its constitution. He viewed the village essentially since a society of distinct cultivating land holders and other village functionaries organized since a little monarchy or oligarchy. He recognized two kinds of villages *raiya* or *non-zamindari* and *zamindari* village.

All these formulations require critical examination in the context of the complexity of the building and functioning of the village society throughout the pre-colonial era. The view of the village society since democratic or primitively democratic organizations looks questionable. In all populist explanations of the village society the starting point is to postulate the village society on a more or less universal foundation of social organisation with specific characteristics such since political autonomy, economic anarchy, social homogeneity and the unchanging character of this closed collectivity. The village was viewed since a territorial concept since well since a fiscal element. It was also viewed in the sense of a social communal represented through the headman. He made representation to the higher authorities on behalf of the whole village on a diversity of issues general to the entire cultivating society. To start with the village never was an in accessible self regulating element. The question is how such a concept could be reconciled with the obligation to pay land revenue to the state through and big in cash. The assumption that the village headman acted since the representative of the communal interest and that he was subject to manage of the peasant society is equally dubious. He was also since much under managing of the imperial management.

The assumption that the peasant economy had a communal and autarchic basis is also open to strong criticism. The pattern of land ownership, and sharing of agricultural assets in the middle of individual cultivators reveal a considerable degree of economic differentiation. It is also unacceptable that the peasant society was homogeneous or undifferentiated. A fair degree of economic differentiation had taken lay due to unequal sharing of domination, and other possessions. Landlessness and agrarian dependence were visible in the rural community. Manufacture decisions were taken through individual peasant family rather than collectively and obligation to pay tax was that of individual cultivator. In the revenue records arrears of revenue are shown against individual defaulters rather the village society since an entire.

Another characteristic of the Mughal agrarian organization was the diversification of the economy in the countryside. It was not that the village was producing only for the society or what the village needed by an integration of agriculture and domestic crafts. The rural economy on the other hand was marked through highly dedicated commodity manufacture, agriculture or otherwise and there was a considerable penetration of money economy into the countryside. The village economy was becoming more and more market oriented. The development of commodity manufacture led to the rising interaction flanked by city and countryside flanked by agriculture and handicraft behaviors. *Qasbas* are the indicators of the development of rural markets. The village population was not therefore big since to accommodate all classes of artisans and other functionaries. Therefore the village society was not a closed stationary and strongly collectivist social basis. The British writings neglected crucial characteristics like differentiation and power within the rural community and its dependence on wider economic and political organizations. These writings also failed to accommodate clash and transform. B.R. Grover argues that the concept of village society, since held through the British officers in the 19th century, was based on their confusing the 19th century joint family *zamindari* estates recognized since *pattidari* and *bhaichara* land tenures with the communal ownership of land since such.

Shapes of Peasant Resistance

At the crux of the agrarian organization of Mughal India is the notion of a reckless exploited peasantry thrown into either flight or rebellion. Refusal to pay land revenue is seen through Irfan Habib since the classic act of defiance through peasants. However complaints through peasants are mentioned, the focus is on flight, which just as to Habib was the peasants' first answer both to famine since well since oppression. He treats armed resistance since the embodiment of peasant anger and desperation. Habib cites proof of peasants uprooting crops and trying to delay or refuse payment of tax. Habib writes of the range of resistance, right from passive to armed resistance, the other variables in this context are not given due attention. The peasantry is shown since having some options to choose from. The vital premise is that peasants finally take to armed resistance when unable to cope with ever rising oppression.

Harbans Mukhia has tried to explore the notion of resistance since being both silent and overt shapes. He has suggested that peasant resistance could assume several shapes depending on the manufacture organization. Lethargy, carelessness, haggling in excess of payments, concealments, petitioning, threats to provide up farming, violent upheavals have all been conceded since possibilities. He has argued that the peasants accept only a section of the ruling class ideology; he

has visualized the peasantry since possessing a sure amount of domination to resist and a considerable degree of dynamism, notwithstanding the information of their use. Two positions are visible; first we have studies which focus on revolts. In the second category we have comments from historians conceding to the possibility of the passive, everyday shape of resistance. Separately from these two positions on the shapes of resistance two images of the peasantry also emerge. On the one hand, we have the picture of an utterly oppressed, absolutely hopeless and helpless peasantry not knowing what to do and how to survive in the side of in excess of rising use, its only weapon being the ultimate one of rebellion. On the other hand we have a picture which cautions against placing them forever at the getting end of use, questions the wisdom of treating peasants since an utterly passive and powerless lot, argues that peasants resist the exercise of domination in myriad methods and contest places in more methods than we generally think of.

Petitioning was one of the many ways of protest when peasants petitioned, they either pleaded for relief/concessions or accounted use and urged the state to take remedial actions. These were in the nature of complaint or protest. Implied in the petition is also a veiled threat of counter activity if demands are not met. Petitions presuppose the petitioner's faith in the willingness since well since skill of the state to fulfill requests and redress grievances. Mainly petitions were efforts to bring injustice to the notice of the state. Peasants petitioned against a diversity of injustices. Mainly frequent were complaints in relation to the excessive demand of taxes. Effort to force upon peasants taxes which were not customary was met with resistance. Regardless of the content of the petitions the seriousness of the issue and the desperation of the petitioner accounted. The tone of petitions was never extremely loud, the posture never aggressive. The petitioners did not question the legitimacy of the building of power and subordination. What was opposed was the transgression of recognized practices. Through petitioning peasants played up to the rhetoric of the traditional obligation of rulers to be fair and presently. A extremely motivating information in relation to the petitions is that after the complaint had been made, petitioners invariably state that in the side of the accounted transgression we cannot survive, cannot keep in the village, and the village cannot be populated. Through stressing that they could not to survive or continue or prosper peasants let it be recognized to the state the urgency of remedial steps. They also caution the state of the consequences of the ruination of the petitioners.

Petitioning looks to have been a popular way of protest. It was almost certainly also the first initial reaction to use and the first row of protection. It entailed no risks. It was approximately a certain method to get one's voice heard. The sheer number of petitions, the range of their contents the parts of rural community who petitioned proves that it was a popular and effective way of protest. Non-payment or refusal to pay revenue through peasants was measured to be an outright defiance.

Peasants who dared to refuse payments were described *zortalab/badamal*. Though, non payment require not always assume the shape of open confrontations. It varied from outright refusal to what looks like a policy on the section of peasants to delay, evade, underlay and not yield willingly. A diversity of term seems in the Rajasthani documents for this type of peasant's activities – *ujar*; *kotai*; *dheel*; *sokhi*; *sukhan*; *hujati*; *seenajori*; *kahavati*; and *haramjadagi*. These conditions suggest that non payment assumed several shapes from open refusal to pay up.

Migration and Threat of Abandonment

Peasants deserted their villages when they were unable to cope with excessive use. It is also significant that peasants sometimes threatened to migrate in response to use. Late 17 and 18 century documents from eastern Rajasthan throw light on how peasants used the threat to migrate to their advantage. This proof also designates that in few cases migration or threat to migrate was an act of defense rather than a measure of desperation. There is ample proof to illustrate that desertion of villages in response to excessive demand was not infrequent and whenever peasants actually migrated, they were consoled, described back and pacified. Considering the land man ratio and the state's interest in uninterrupted farming desertion or threat to desertion invoked favorable response from the state. The peasants were pacified with assurances since well since concrete concessions to get them back.

Subtle Resistance

From the analysis of documents from eastern Rajasthan it seems that the peasants including the richer part maneuvered, evaded, cheated and connived in an attempt to retain for themselves since big a share of produce since possible. Thereby raising the question of connection flanked by what the state had demanded from them and actual payment in practice. There is a wide range of behaviors aimed at evading payment of land revenue in full such since removal of standing crops from the field, concealment of land and crop at the time of measurement, not disclosing region under cash crops and irrigated lands, not revealing the exact number of taxpayers, declaring larger crops since inferior crops, false declaration concerning the rate of tax applicable, tampering with considered region figures and receiving holdings liable to be assessed at normal rates assessed at concessional rates. What is more striking is the information that all parts of the village society, village headman and privileged category of cultivators, were involved in cases of cheating the state. The accounted cases pertaining to these acts give invaluable sight in the nature of collusions, collaborations and connivances within the peasant world which cut crossways differentiation and

stratification. All parts of the rural community look to be involved in the general objective to escape assessment to get absent with lesser payment. Involvement of the richer part of the cultivators in the cheating of state designates that the primary objective was not the securing of a bare existence stage in order to meet requires of subsistence but clearly an effort to augment personal income at the cost of state. This day-to-day passive shape of resistance best suited to the peasantry – a class scattered crossways the countryside lacking formal organisation and stratified both socially and economically.

Agrarian Building: Deccan

Village in the Deccan was divided into habitation and cultivated region. The habitation regions/homes left in excess of through families for few causes were recognized since *gatkul gharthana/gatkul vada*. The cultivated region was divided into number of *thals*. *Thals* in turn were further divided into *shet* or *set*. The pasture land of the village was recognized since *lokacha kuran/gayeran* while the pasture belonging to the state was described *sarkarcha kuran*. Villagers had to perform *begar* for cutting the fodder from the state's pastures. The cultivated land on the foundation of the nature of the tenure/holdings was further subdivided into four biggest categories since we have seen in north India since well - *miras* or *thalkari*, *inam*, *sarkari sheri* or *khalisa jamin*, *gatkul jamin* and *pad jamin*.

Village headman was the mainly powerful of the lot. Village society comprised of hereditary officials peasant proprietors and village servants. There also existed 'outsiders/ strangers'/*upari*. Generally their location was subordinate to *mirasdars*. But they could assume a status of a *mirasdar* through paying a fee. Village headmen enjoyed right in excess of the *gatkul jamin* and the waste lands. He could dispose that of.

Mirasdars were the hereditary peasant proprietors. They were the original settlers of the village. They never lose their right in excess of land unless they sold or gifted the land. Even those who deserted the village sustained to possess their right in excess of land. They are mentioned in the records since *gat-kuli*. They played active role in the village assembly and *gotsabha*. Their symbol 'plough' had to be affixed on all decisions. In sure cases only the concerned *balutedar* was invited to attend the *gotsabha*.

Balutedars

Village servants described *balutedars*. Traditionally they numbered twelve and designated since *barabalutas*. Though, initially, the number seems to be only *five* and was described *panchkaruk*. The number of *balute* varied since per the mass and require of the village.

Traditionally *balutedars* are grouped on the foundation of their income since well since the services they provided to the village. On the foundation of their income they were grouped into three categories.

- Thorali Kaas consisted of *sutar lohar*, *mahar*, and *mang*.
- Madhali Kaas incorporated *kumbhar*, *chambhar*, */Parit* and *nhavi*.
- Dhakti Kaas had *Bhat*, *Mulana*, *gurav*, and *koli*, *sonar/potdar*, *joshi*, and *Ramoshi*.

On the foundation of services they broadly consisted of

- Village artisans and professionals,
- Common servants of the village, and
- Religious servants.

They received lieu of their services specified quantities of grain at harvest time, while few also received *inam* land. In the middle of the *balutedars mahar* society was quite big. The elected head of the society was recognized since *mehtar mahar* who looked after the society's welfare. In lieu of his services he was entitled to 1/9th of the whole *mahar watan* including grain, perquisites and donations. There lived clear distinction flanked by the *watandar balutas* and *upari balutas*. These *upari balutedars* were usually 'migratory' servants ready to fill up the gap where the require be. While creation the payment for their services no distinction was made flanked by a *watan* or *upari balutedar*.

A.S. Altekar has accentuated as they were fulfilling the requires of the society, their 'maintenance was guaranteed'. But they did not possess freedom to migrate in search of bigger living. Therefore he negates their mobility aspect altogether and presented village society since 'self-contained' and 'self-enough.' Sociologists and anthropologists have explained this connection in conditions of '*jajman*' and '*jajmani-haqq*' and their services are termed since '*demiurgic* mode of payment'. R.S. Sharma also argues that with the decline of urban centres artisans in big numbers migrated to the rural regions that resulted in the emergence of *jajmani* dealings. Though, both Fukazawa and A.R. Kulkarni reject the attendance of *jajmani* organization. They argue that a) these *balutedars* were not employed through specific families instead they served the requires of the whole village; b) They received their remuneration since *haqq*, *lavajima* or *manpan*; and c) These *baluta watans* were not only hereditary but also transferable and saleable. A.R. Kulkarni has preferred to

exploit the conditions *gramsevak/grambhrutak* for them since is traditionally used in literature to address them.

Besides these *balutedars* we also hear twelve *alutas*. Grant Duff mentions the alutedars since naru and balutedars since karu. Fukazawa and Kulkarni maintain, though, as we do not approach crossways the word *alutas* in the Marathi documents prior to the British era ‘the term *aluta* was shaped *alliteratively* with *baluta* in extension of the application of that word.’ It will, though, be motivating to discover that traditionally they were addressed since *panchkaruk* and this binary division is equally accounted throughout the early medieval era.

Agrarian Building: South India

In South India village was divided into number of residential wards almost certainly on the foundation caste/job. We do hear of *paraichheri kammanachcheri, kudiyrukkai vannarachheri*, etc.

In South India at village stage there lived *sabha/sabhai* and *ur*. *Sabha* was usually associated with *brahmadeya* villages and *ur* was present in nonbrahmadeya villages or at least in these villages that were not exclusively controlled through the brahmans.

Sabhas possessed right to acquire or dispose of village lands. They emerged to have functioned in *ganabhogam* or *samudayam* villages and worked on behalf of the village society. Parudari linked with temple management possibly also worked under the manage Village *sabhas* and *uravars* also performed the function of revenue collection to be deposited to the imperial treasury. Therefore they also worked since mediators of the state revenue for collection. In case of failure of depositing the land tax in time the assembly had the right to deprive the landholders/cultivations from lands. They also possessed the right to impose or remit few regional cesses that the assembly had the right to extract. It could not impose and remit any tax pertaining to or associated with imperial exchequer without the permission of the state. Though, these regional bodies possessed great power and state could not remit or impose any tax without their consent. At times *uruvars* also acted since lease holders of the state land.

These assemblies also dispense the justice and punish the offenders. At times they could even confiscate the lands of the guilty/convict. Even it possessed the right to confirm temple lands and at times it shared lands in general with temples like tanks, etc. They also served since guardian of public lands, endowments and charities. Throughout Bukka II’s reign Rasappa, son of a merchant, Cinnappa granted a piece of arid land to God Kalledeva, the *mahajanas* were made incharge of the holding. *Sabha* sustained to function throughout the Vijaynagara era and enjoyed since vigorous dominations since it were under the cholas.

Another semi-autonomous assembly of importance was *nadu*. However it enjoyed approximately same dominations its jurisdiction was comparatively much superior to *sabha* and *ur*. Its members were recognized since *nattavar/nattar* and *periyannattar*, *tandirinais* and *okkuh* in Karnataka. Tamil inscriptions mentions *nattu-viniyogam*, *nattu-kanikkai* and *nattayam* extracted through the *nattavars*. However *nattavars* of the Chola era were mainly Vellala land-holders throughout the Vijayanagar era we discover it incorporated members of several societies including merchants, artisans etc. K.V. Subrahmanya, Venkata Ramanayya T.V. Mahalingam and Noboru Karashima argue that these bodies. A Krishnaswamy, though, maintains that ‘They did not actually destroy the *Sabha*, the *Ur* and the *Nadu*... But they did not actually revive these ancient organizations when they ceased to function...’ He attributes the chief cause behind this trend was - ‘feudal’ and military organisation, the hostility of the Vijayanagara ‘warriors’, the ‘highly centralised ‘feudalism,’ and the development of substitute regional organization ‘the *nayankara* and *ayagar* systems. Though, Saletore feels strongly that these assemblies sustained till late. Mahalingam also attributes the chief factors behind this declining trend to “partly on feudal and partly on military foundation’. However, he agrees that there was no deliberate effort on the section of Vijayanagara rulers to discontinue them. He further deliberates that “the development of the *ayagar* organization and the direct appointment of administrators responsible to the government from the administration of the regional regions necessity have sapped the extremely foundations of regional initiative and autonomy and stifled the free life of the village republics.” Noboru Karashima while agreeing with Mahalingam emphasizes the changing trend to the consolidation of *nayaka* rule in the areas that “the *nayakas* started to administer their territories employing their own mediators through the beginning of the 16th century.” There is no reference to exaction of cesses like *nattu-viniyogam*, *nattu-kanikkai*, and *nattayam* in Tamilnadu in the 16th century. Further, Noboru Karashima deliberates that the decline of *nadus* since territorial elements could mainly be since a result of establishment of *pettai* and *nayakkattanams*. However, the usage of *nattavars* sustained but *parru* became the effective administrative element. We get frequent references to 18 *parru*, 17 *parru* in the 16th century. Throughout the 15th century tussle flanked by *nayaks* and *nattavars* became frequent; the latter on behalf of the interests of the peasants to reduce the tax burden. Throughout the 13-14th centuries in South India a new class of non-Brahmana landlords appeared who got their land cultivated through *adimai* and *kudi*. We do not know what type of services provided through *adimai* or *adiyar*; almost certainly Paraiyas and Pulias employed since agricultural labourers; while Vellalas worked since domestic servants. We do get references of *kudiyameru*. Kudigals cultivated temple lands under the direction of the temple organisation since tenant. On the eve of peasant revolt in early 15th century mainly of the land held through landholders who intern rented it to the tenants. Therefore peasants

cultivated their own lands also get it cultivated with the help of slave labour. Towards the closing years of Vijayanagara era we discover nayaks also emerging since lease holders of the temple lands. Our era also saw emergence of another class since lease holders – merchants –the chettis. Their emergence since lease holders seems to be since a result of rising deal and commerce throughout our era. Karashima argues that this trend deeply altered the agrarian dealings. It led to the decline and sale of Brahmana lands throughout the 13-14th centuries. However the immediate cause was heavy taxation imposed through the Vijayanagara rulers. Just as to Karashima it should also “be viewed in the context of agrarian transform, particularly differentiation in agrarian community. These lands...were mostly bought through non-brahmanas who became the regional magnates of the lower Kavery valley and other areas towards the end of Chola rule. Nayaks’ attempt to manage manufacture in their territories, employing their own mediators, necessity have affected nattavar’s location since well.

Bunton Stein argues that like the transform sin the Tamil century in the Karnataka area since well regional organizations were ‘altered’. Bunton Stein emphasises that suffix *Rattavade*, *Gangavadi* “symbolize elements of ethnically defined territoriality under regional chiefs.” In contrast *ayagar* organization of Karnataka became widespread – during the macro-area.

Ayagars

Like village servants of the north and *bara balutas* of the Deccan and Maharashtra in South India the village organisation throughout the medieval era appeared was recognized since *ayagar* organization putting the *ur* Chola into the backdrop. It was a body of 12 functionaries N. Venkata Ramanayya contains in the list of *ayagars* - *karnam/senabova*, *gauda/Reddi*, *talari*, *washerman*, shoemaker, barbar, carpenter, goldsmith considered grain throughout harvest, *purohit* decided auspicious dates for ploughing and harvesting preceded in excess of all the village ceremonies, waterman regulated water supply to the meadows, potter and blacksmith. They were the village servants. Except for the *karnam*, *Gauda* and *Talari* no one else was associated with state functioning. *Karnam* used to assist in revenue collection in association with the Reddi. They composed the *jodi* from the ryots and deposited to the state treasury.

They were assigned plots of the village lands and enjoyed hereditary rights in excess of it recognized since *mirasi* and paid *jodi*. Besides at the time of the harvest since was the case in Maharashtra they were paid through ryots fixed quantities of granules/produce since per the custom of the village. It was recognized since *mera*. Their location was hereditary and permanent. In situation of disputes in excess of their rights state machinery used to intervene. They could sell or

mortgage their rights. They also used to receive revenue free grants that were granted to them in perpetuity in lieu of their services.

Mahalingam asserts that “no transfer of property could be affected or grant made without the knowledge of these village functionaries.. Sales of land had to be made only with the knowledge of these administrators...” A. Krishnaswamy argues that the organization was totally new to the Tamil country. Though, Bunton Stein maintains that we do get references to village headman, artisans, etc. in the Tamil country. Just as to him, ‘what was new in Tamil country, was possibly not elsewhere, and was the support of these persons and functions through special village tenures... Yet the *ayagar* organization, extensive prevalent in Karnataka where land was usually less precious, was introduced into Tamil country throughout the fifteenth and sixteenth centuries suggesting a shift in the comparative domination of the dominant landed people and those who performed village services.’...This new foundation of locality leadership altered earlier patron-client dealings in a decisive method; it also led to significant changes in the land organization of the time.’

Though, Noboru Karashima raised his doubts in excess of Burton Stein’s report that it was introduced in the Tamil area in the 15-16th centuries. He is doubtful his doubts whether it was ever introduced ‘throughout and after’ the Vijaynagar rule in the Tamil area. He argues that he does not discover in any inscription reference to *ayagar*. The date, he says, used through Mahalingam, too, is from Kannada inscriptions and not Tamil.

NON-AGRICULTURAL PRODUCTION

Agro-Industries

Textiles

Textiles could be said to have been the 'heavy industry' of the pre-industrial age approximately the world. Textiles occupy foremost lay in the middle of India’s crafts as time immemorial. Textile manufacture was widespread during India. Pelsaert says that from Chabaspur and Sonargaon to Jagannath all existed through weaving industry. Approximately every city was filled with weavers. In 1620s at Masulipatanam alone 7000 weavers are recorded. Same numbers were mentioned to be present at Benaras in 1640s. Proximity to raw material and proper transport facilities were prime thoughts for developing a textile centre in the medieval era. Though, sure weaving villages also appeared on explanation of greater demand, particularly through Companies for a specific diversity of cloth. Throughout our era of revise in south India you will discover a shift in the resolution pattern of the weavers. Earlier their big concentration was in the temple premises.

Throughout the seventeenth century, barring some votive records of Kaikkolla weavers that we discover in the temple intricate, donative inscriptions of the weaving society throughout this stage are more frequent at secular spaces than in the temple intricate. Gujarat, Bengal, Indus plains, and Coromandel were the chief centres of manufacture. Her further decline in the 18th century was caused on explanation of loss of Persian Gulf market owing to disturbed political circumstances. Maratha disturbances throughout the 18th century also played a negative role and contributed to its decline. In Bengal, though, it is motivating to note that cotton that was an significant crop grown throughout the medieval era approximately disappeared later in the 19th century in the area. Ibn Battuta records that the finest cotton cloth was sold in Bengal at very cheap prices of 30 cubit for 2 *dinars*. North Coromandel area produced white Guinea cloth that had great demand in the Red Sea and the Levant. Likewise, south Coromandel was recognized for its blue, red, and striped cloth. Aurangabad and Burhanpur were well-known centres of white cloth manufacture. Chaul was well-known for linens and Cambay for its quilts. Therefore well-known was the city of Masulipatanam since it was recognized since municipality of dyers and weavers. Pondicherry appeared since one of the significant centre for bleaching. Painted cloth was also exported from Pondicherry.

English factory records mention more than 150 diversities of cotton textiles. Muslin was mainly produced in Bengal and Dacca. *Qaimkhani* was a fine diversity of muslin chiefly purchased through the Mughals and the elites. Delhi, Agra and Patna were well-known for its chintz, Negapatnam for calico and chintz. Machhiwara was well-known for *bafta*. Several centres were therefore acclaimed that the diversity of cloth named after the centre – *Dariyabadi*, *Khairabadi*, *Semianoes* from Samana, *salahati*, Devgiri, *kanchivani* from Kanchipuram, *tanchera* from Tanjavur, etc. Sure diversities came to be recognized after the weaving society e.g. *Jedara* silk after *Jedara* society. Tents were in great demand in the middle of the royalty and the elites throughout campaigns. Abul Fazl mentions ten such diversities. The cheapest one fetched the price of 10,000. Extensive cloth was mainly produced at northern Coromandel and north India.

In medieval Karnataka Maggadavaru, Neygeyavaru, Salesasirvaru, Devanga and Jedaru sustained to enjoy prominence in the middle of the weaving societies. Though, Kaikkolars replaced the old Saliyas of Tamil Nadu. Weavers even made grants to the temples to enhance their status in the social hierarchy.

The traditional motifs in south India were based on the themes of epic *Mahabharata* and *Ramayana*. Kalamkari was the finest instance of this. Broadly the ‘poor’ could afford a coarser diversity while finer diversity was the ‘exclusive’ preserve of the elites. Introduction of *charkha* and *pinjana* throughout the Sultanate era led to sharp augment in cotton textile manufacture throughout the medieval era. Irfan Habib has assessed that spinning wheel enlarged the efficiency six-fold. In

common, one discovers that overall consumption since well since manufacture of textiles seems to have increased throughout our era of revise. In the south since well technical changes occurred under Muslim contacts. Besides the earlier patterned loom attract loom also became general.

But its usage looks to have mainly confined in South India in the middle of the Muslim society. The Tirumalai-Tirupati Devasthanam inscription speaks in great detail the looms used through the modern wearers:

- While we are assembling here... in the course of weaving through handlooms, one-third of the *Sadisarakkudam* or *achchukkattu* should be drawn lengthwise and two-third of the cotton yarn should be used in cross-wise weaving. This mode of weaving *should be done only through the Muslims*. Since a reward for their services they are authorized to collect the income from the gifted lands for their weaving.

Vijaya Ramaswamy on the foundation of inscription counters Irfan Habib's argument that *kar-chob* i.e. square wooden frame came to be used in India throughout the seventeenth century. She claims that *Sadisarakkudam* referred to in the Tirupati record is 'extremely same to *kar-chob*' literally means 'a four cornered frame.' She has further expressed her reservation in excess of the usage of attract loom in India that Irfan Habib accepts it a seventeenth century incorporation. He links the innovation to vertical loom. Though, Vijaya Ramaswamy argues that 'the vertical loom looks to have been the mainly primitive kind in subsistence in India.' She cites the 1184 AD inscription of Vira Ballaladeva's reign in Jambur village that refers to 'looms which are tied to the roof with a rope.'

Silk

In India silk was produced both through the mulberry-feeding and non mulberry-feeding worms. The biggest silk producing areas in India were Gujarat, Bengal and Kashmir. Chaul was well-known for silk weavers. Sericulture was also practiced in Medieval Orissa. Peasants used to cut the old mulberry trees into little pieces and tilled them after ploughing in October. In a some days time the shoots approach out and they were plucked daily to feed the worms.

Indians used the similar reeling techniques for all diversity of silks. They were not aware of the Chinese way of reeling. Reeling starts presently before the moth was in relation to the to break the cocoon. The cocoons were first put in hot water and then in fresh water before reeling. The thread was presently softened throughout the procedure of reeling. This method Indian organization was measured bigger than Chinese and Persian ways. Wheel reeling in India began with the introduction

of spinning wheel in India in the 14th century. The filaments from bigger excellence cocoons were *pattani* and lower grade cocoons were recognized since *potti* or *poot*.

Alauddin Khalji sent *abrad-i kambayati* to Il Khanid minister Rashiduddin since present. Initially Gujarat was heavily importing raw material from China. At Rajmahal in Shah Shuja's garden a fine diversity of mulberry *Tut* was produced. *Juz*, *koila*, and *mashru* were produced at Delhi. *Patola* was the mainly sought after diversity of silk produced in Gujarat. Bhagalpur was recognized for *tasar* manufacture. Though, its manufacture declined sharply in the 19th century. Tavernier also mentions the manufacture of Assam *muga* silk. Besides cotton textiles and silk, carpet weaving was also widespread. Warangal and Masulipatanam were well-known centres of its manufacture mainly producing for exports.

Indigo

Indigo was one of the mainly significant cash crops throughout the medieval era. It is surprising that Thakkara Pheru does not refer to indigo in the middle of his extensive list of crops mentioned. It was a dye mainly cultivated in Alwar, Bayana, Sehwan, Telangana and Sarkhej areas, however coarser diversity was produced all in excess of India. On the Coromandel coast Naglewanch produced good excellence indigo. Though, indigo produced at south Coromandel was of inferior excellence. Indigo was also produced at Dabhol and Wengurla in Bijapur. Nainsi and Peter Mundy mention that indigo was also grown in Merta area in Rajasthan. Likewise, Chetan Singh argues that the expression 'Lahore indigo' does not mean the indigo brought from outside and basically marketed here. He says that Lahore indigo was qualitatively dissimilar from Sarkhej or Bayana or that of Thatta. It was actually produced through peasants from in the vicinity raised crop in the area. In 1614 Masulipatanam indigo cost 12 pence a pound; Surat indigo 13½ pence; while Sarkhej indigo ranged flanked by 15 and 20 rupees per maund. Pelsaert, script a small later, mentions the price of Mewat indigo at Rs. 20 per maund when the Bayana indigo was selling at Rs.30 a maund.

Usually indigo was marketed only after being processed. But we do get the reference from Gujarat where peasants sold raw leaves. The crop was sown through the end of June. It provided three cuttings. The first one, *nauti*, was reddish in colour; the second, *jerry*, which was ready through August was actually the best and possessed perfect violet colour and was mainly in demand. The third cutting, *katel*, was brackish and was not of good excellence at all. Manufacture of indigo required special processing to be sold in the market. To procedure it a set of brick lined rectangular and circular vats were used. Inside walls were plastered with lime. Introduction of fine cementing material, lime mortar, throughout the 13th century made indigo extraction easier through creation the walls of the vats waterproof. The rectangular vat was filled with indigo leaves and alkaline water for

steeping for 16- 17 hours. Throughout this era indigo colour of the leaves dissolves into the water. After steeping the material is transferred to a circular vat for beating/churning. At Bayana two vats were used for the processing but at Sarkhej and Mewat both the processing was done in one vat itself. At the churning level the waste was removed. Pelsaert attributes to bigger excellence of Bayana indigo to its exploit of alkaline water. K. K. Trivedi adds that the exploit of two vats apart for steeping and churning also produced bigger results. Besides, exploit of arid leaves in lay of green at Sarkhej also affected the excellence considerably. Trivedi has calculated that around 502 metric tons of indigo was produced throughout a season at Bayana.

Indigo was therefore prized a crop throughout the medieval era that Shahjahan aspired to monopolise it. Yaqub Beg, the governor of Broach forced English Company to buy indigo from him despite their objections. Its manufacture declined particularly towards the secure of the 17th century mainly on explanation of unequal competition the peasants had to side from the West Indies market. Further, political instability in the areas, particularly in the regions approximately Agra and Delhi on explanation of Jat and Satnami uprisings, also contributed to its gradual disappearance. Gujarat famine of 1630-32 also took the toll of indigo manufacture in the area. It declined as then in the area. Tapan Raychaudhuri highlights citing the case of decline of indigo in Gujarat the importance of 'price responsive character of India's agro-manufactures.' 'The peasants' choice to cultivate scrupulous crops depended on the 'price it fetched.' After Gujarat famine prices of food grain crops increased greatly resulting in peasants' opting to cultivate food grain crops in preference to cash crops. It is motivating that in the manufacture of indigo, particularly at Sarkhej merchant capital was also invested.

There was another dye *al* that was produced mainly in lower *Doab*, Bundelkhand and Malwa areas but comparatively at lesser level. With the introduction of manufactured dyes its manufacture approximately ended.

Sugarcane

Sugarcane manufacture was widespread during north India and listed in the middle of all the *dastur* circles in the *Ain*. Though, one discovers sugarcane practically away from the medieval list of crops produced in western Rajasthan, however the crop is listed in eastern Rajasthan. Steel and Crowther observed that, 'all the country betwixt Agra and Lahore yields great store of powdered sugar.' Maham in *sarkar* Hissar Firuza, *suba* Delhi was noted for high excellence sugar. The best and the cheapest sugar were produced in Bengal. Dutch's annual export of Bengal sugar to Persia alone in 1640s constituted approximately 400,000-450000 lb. Though, sugarcane manufacture in Bengal illustrates signs of decline throughout the 19th century however it still remained an

significant crop of the area. For creation sugar and *gur*, 'The juice was obtained from the cane through the exploit of worm-gear wooden rollers worked through oxen in the southern areas, and through the stone-mortar-pestle mill, also turned through oxen, in the Gangetic zone. These mills were replaced through iron-rollers only through the secure of the nineteenth century. The juice used to be put in iron cauldrons serving since boilers; and *gur* and several diversities of sugar were produced through dissimilar degrees of refining.'

Oil Manufacture

Telis engaged an significant lay in both the rural and the urban settings. Oil being the essential commodity made the attendance of the society in approximately every large village. Separately from the extraction of edible oils sure centres were recognized for its odoriferous oils – Midinapore for oils from flowers; Gwalior produced chambeli; and Orissa gingelly; while Rander and Navsari were well-known for aromatic oils and scents.

In Karnataka the society involved in the profession was recognized since *telligaranakhara*, *telligara kottali*, *telligaseni*, *telligaraivottokkalu* and *ganigarokkalu*. Through 13-14th centuries oil pressers in Karnataka also involved in oil deal due to augment in manufacture. The exploit of the titles like *gavunda* and *setti* for them in Karnataka is quite motivating and suggests augment in their status. In Maharashtra oil pressures belonged to the category of *alutedar*. *Litacharita*, a Marathi biographical job of the 13th century mentions oil shops in the *hat*. The oil pressures are mentioned busy extracting the oil from the *ghana* and their wives busy selling the oil sitting in front section of their homes. This illustrates that the *telis* used to job on their own mill by their muscle domination to extract the oil. However we do hear references to *bail ghana*, i.e. the exploit of the bull domination for extracting the oil. Oil was extracted both in the oil-press and oil mill.

Its exploit for lighting the lamp made it an thing for endowment. We do get frequent references to *madad-i maash* grants under the Mughals for lighting lamps in the temples since well since mosques. Inscriptions from Maharashtra also mention that one *do* and one jar of oil to the temple priest from each *ghana* was required to be given for endowment. Inscription from Patan records that *telikars* had to supply oil to the *maths* frequently. It is almost certainly that the state instead of taking tax from the *telikars* in cash was taking and diverting it in the shape of endowments to educational and religious organizations. In Maharashtra they seem to be earning good profits to emerge since money lenders operating at little stages in the rural settings.

Alauddin appointed Sirajuddin since superintendent to manage the fraudulent practices of the oil merchants of Delhi and neighbouring regions. The oilmen had their own guilds like organisations

in the area of Bihar. Fishing was another significant profession. Mogar and Mukkuvan fisherman of Malabar made good fortunes out of their profession.

Metals

India was rich in mineral deposits. In the middle of the metals mined diamond engaged the foremost lay. India was also recognized for its iron and steel. Though, she had to mainly depend for her gold and silver on imports.

Gold and Silver

Gold was not produced in India on a considerable level. Gold mines of Karnataka exhausted extensive back. But what we hear from our era is the extraction of gold from river sands. Ralph Fitch mentions that people discover gold through digging sand deposits at Patna. Gold was extracted from the sands of river Ganga and its tributaries. But the extraction procedure was extremely expensive and the periphery of profit was approximately smallest. Since for silver mines, references to its extraction are extremely meagre. However Abul Fazl mentions the attendance of silver mines in Kumaun hills and there were few traces of silver mines in Sirmur hills, mainly gold and silver were pumped to India by favorable balance of deal.

Nonetheless, craft of jewellery creation was a flourishing one. Bernier remarks, 'it may be doubted if the exquisite workmanship of those articles can be exceeded through any European goldsmith.' In Karnataka they were described *akkasaliga*. They are mentioned in the inscriptions since taxpayers, receiver of grants and even since donors. They even constructed temples.

Diamond and Valuable Stones

Chhotanagpur plateau in central India was recognized for its diamond that tempted Jahangir to send two expeditions in 1612 and 1615. Vast booty of diamonds was composed from Durjan Sal. Tavernier also records diamond mining at Soumelpour in Lohardaga district of Chhotanagpur. In Bihar, Kokradesh was well-known for diamond mines. Ibrahim Fath Jang, governor of Bihar sent the emperor nine diamonds. But after 1612, all traces of it are lost. Golconda was recognized for its well-known diamond mines of Raolconda and Kulur. Diamond mining was a state monopoly and was leased out through the kings to merchants. In Kulur mine alone the workers employed throughout the

seventeenth century were around 30-60,000. The expected revenues from the diamond mines of Golconda in 1680 were one crores and twenty lakhs of rupees.

After the job of Golconda through the Mughals diamond manufacture in the Golconda area could only be started in 1692 approximately after a gap of five years. Mines were placed under the direct supervision of a *faujdar*. The arrangement was not extremely dissimilar from what was prevailing earlier. It was given to private contractors who with the help of hired labour mined specified plots of land for diamonds. Diamonds in excess of the weight of a gold *hun* belonged to the Emperor since was the case earlier. The only transform that had occurred was earlier Hyderabad was the hub of behaviors for diamond deal now the centre shifted to emperor's Camp. Another significant aspect was on explanation of political instability of the area mining regions were now walled and garrisoned.

Marco Polo speaks high of the pearl fishery of Tuticorin in south India. Kazor in *pargana* Mahakanta was also well-known for pearl fishing. At Limdora close to Cambay carnelian was mined from a hill. Cambay exported drops to dissimilar spaces. Here artisans prepared articles from stone and pearls with such fineness that Barbosa remarks that it is hard to distinguish from the real ones. It was also well-known for ivory bracelets. Lantegree was well-known for coral polishing.

Copper

Copper was extensively used for coinage since well since it was significant for manufacture of arms. In the north copper mines were situated amidst the spurs of Aravallis. Rajasthan was recognized for its copper mines. The copper mine tracts in Rajasthan were Sojat, Toda Bhim, Bairat, Singhana, Udaipur, Kotputli, and Narnaul. Southeast Bihar was also rich in copper ores. Raja Bahroz of Kharagpur exploited the rich mineral deposits to his advantage. We also hear the attendance of copper and iron mines in Suket-Mandi.

Iron

Shihabuddin-al Umari is full of praise for Indian iron and steel. Iron ores were mainly situated in the hilly tracts extending from Gwalior to down south. The neighbouring spurs of Himalaya also possessed iron mines. Deccan was exporting iron to the Transitional East. Masulipatanam, Petapoli, Pulicat, etc. were biggest centres of iron export. Sea coast city of Chikhli in *sarkar* Surat also possessed iron mines. The smelting procedure was highly laboured rigorous, by rudimentary furnaces and implements. No underground mining was practiced; instead deposits were tapped close to the surface stage. Generally when one bed was exhausted another shallow mine was

dug elsewhere. Approximately Bangalore sand mixed with iron deposits was composed throughout the rainy season. Later the sand was washed to remove the earth. Then it was smelted.

In the middle of the iron products, India enjoyed great reputation for its finest diversities of swords. Kumaun was recognized for its swords and daggers. The well-known *korij* swords were made of Kutch iron. Indalwai was an significant centre for manufacture of swords, daggers and lances. It mainly used the raw material from Kalaghat hills. Ahmedabad was well-known for its manufacture of arms. Patan was recognized for its swords for water from a scrupulous well provided good temper to steel.

Minerals

Throughout the medieval era the chief mineral products mined were – salt, saltpeter, sal ammoniac, sulphur, and borax. Borax was procured from the hills of north Bihar. Thanesar was recognized for its manufacture of sal ammoniac; while sulphur springs were scattered all in excess of.

Salt

The salt manufacture in well-known salt-ranges almost certainly sustained uninterrupted from Huan Chwang's time. The owner's charge was 10 dams per carrier. In Rajasthan Didwana, Sambhar, Pachpadra upto the Rann of Kutch was one of the major salt producing tract. Nainsi statements in Pachpada area alone 300-325 salt pits. In western Rajasthan two ways were employed to extract salt 'either through digging pits or obtaining it through spreading water in excess of a patch of land.' Salt was transported through the *banjaras* from Marwar to dissimilar areas of Rajasthan and Punjab through the regional Banias. Railways, though, put a large blow to the industry in the area. Bhadani calculates that in 1660s salt workers involved in the area were around 2922-2965 since against 828 in 1891. Salt was traded in vast quantities from Agra to Bengal. On Gujarat coast Makbulabad, *sarkar* Broach, was the centre of salt manufacture.

Konkan area was also recognized for its salt manufacture. Pen, Panvel, Nagothane, Revdanda and Thana were well-known centres of salt manufacture. Here mainly peasants/cultivators were the salt makers. Therefore it worked since subsidiary to agriculture. Throughout Shivaji's rein salt manufacturers had to side stiff competition from the Portuguese of Goa. In Karnataka salt manufacturers were recognized since *uppaligas* and *upilakara* and their organisation was described

besavokkalu. In Karnataka like other professions it was general in the middle of salt manufacturers also to join the state service since warriors/soldiers.

Saltpeter

In medieval era saltpeter was used for gunpowder and refrigeration. On explanation of its high cost it looks highly unlikely that its exploit for refrigeration was accessible for the commoner. Saltpeter from Bihar was measured to be the best for gun powder. Patna and Saran in Bihar were well-known for its manufacture. Ahmedabad and Agra were other significant centres of its manufacture. Chala-Babra and Malpur, *sarkar* Ahmedabad were significant centres of manufacture of saltpeter. In western Rajasthan it was an thing of state expenditure. It was extracted from Jalor. Pelsaert gives a detail account of the processing of saltpeter:

- It is prepared from three types of earth, black, yellow, and white, but the black earth provides the best excellence, being free from salt or brackishness. The way of manufacture is since follows. Two shallow reservoirs like salt-pans are made on the ground, one much superior than the other. The superior is filled with the salt earth and flooded with water from a channel in the ground; the earth is the thoroughly trodden out through numbers of labourers till it is pulverized and shapes a thin paste; then it is allowed to stand for two days, therefore that the water may absorb all the object. The water is then run off through a big outlet into the other reservoir, where a deposit settles, which is crude saltpeter. This is evaporated in iron pans once or twice, just as to the degree of whiteness and purity desired, being skimmed continually until scarcely any impurities rise. It is then placed in big earthen jars, holding 25 to 30 lb.; a crust shapes in the dew throughout the night, and if any impurities are still left, they sink to the bottom; the pots are then broken and the saltpeter dehydrated in the sun.

Structure Construction

With the introduction of fine cementing material and new techniques one discovers fast development of brick homes in the municipalities. Alauddin Khalji employed 70,000 craftsmen for his structures. The number of stone-cutters alone employed through Babur for his structures were 1491. In structure construction role of engineers and architects and builders was mainly significant. At first *tarah* of a structure used to be chalked out on a sheet of paper and structure was constructed since per the *tarah*. The master architect was recognized since *Ustad*. *Ustad* Ahmad and *Ustad* Hamid were the chief architects appointed for the construction of Shahajahanabad fort. A painting

from Baburnama illustrates Babur inspecting the graph-sheet of a layout of a garden. 'Gardens' shaped an integral section of Mughal structure constructions. In Karnataka architects and builders were recognized since *ruvaris*, and *rupakaras*, *silpi*, *achari*, and *acharya*. They were involved in tank and temple constructions.

Stone and bricks, both baked and dehydrated, constituted prime structure material. After that in importance were the lime/ lime mortar. Red sandstone was quarried from Fatehpur Sikri and Rupbas. Bihar was recognized for cutting and polishing of stone. Phalodi in Rajasthan had two stone quarries. Abul Fazl records attendance of two marble quarries at Rajgir and Gaya in Bihar used for creation ornaments. Marble was quarried from Marwar. For Taj Mahal marble was brought from Udaipur area. The stones were transported on cart-loads. Lime was quarried from Broach and Patiali. Limestones were used for white washing. Gujarat's *sang mahtabi* was recognized for its softness and whiteness. Lime from sea-shell was prepared in the area of Bengal. For creation lime mortar *surkhi* was used.

Beldar specialised in laying out the basis; *sangtarash* were the stonecutters. Though, there were distinct embossers, inlayers, and for polishing the stone. Bricklayers constituted distinct category. Ironsmiths however played active role in the structure behaviors, since is apparent from Mughal paintings, interestingly he is establish missing in Abul fazl's list of structure workers. Carpenters and sawyers were significant section of structure construction. In Karnataka, recognized since *badagi* and *varadhaki*, they enjoyed the status equal to *rathakara*. Throughout the 14th century, in Irinjalakuta temple, Kerala we hear in relation to the *Taccuta Kammal*, incharge of the construction behaviors in the temple. They were equally basic in both the rural and urban economy. They were essentially required for creation agricultural apparatus and bullock carts in the village community.

Other Crafts

The list of sundry crafts throughout the medieval era is exhaustive. We do hear manufacturers of bamboo articles, image sellers, bangle dealers,. Cambay was recognized for its manufacture of wooden furniture, perfumes, etc. Furniture manufactured at Baroda was exported since distant since to Basra. Ahmedabad and Sambhal were significant centres of paper manufacturing. At Sialkot and Sirhind many diversities of paper was manufactured. Van Twist mentions that Ahmedabad depended for the raw material for paper manufacture on Malabar coast. At Ahmedabad vermilion was produced from mercury. Surat was another significant centre of its manufacture.

Potters shaped one of the essential component of a village life. Potters of Patna were well-known for their earthen ware. Their ware was therefore fine that it was not thicker than paper. It used to be sent since 'rarity' all in excess of. They used to receive land grants or fixed proportion of crop in lieu of their services. They also served since warriors in south India. Tanning was the craft that was solely the profession pursued through the Chamar caste. Saddles, water buckets, leather pots, shoes and same other articles were manufactured out of leather. Sirhind was noted for quivers, greaves, shoes and sandals. Excellent shields were made at Sambhal out of the skin of rhinoceros. While at Cambay shields were made out of tortoise shells.

Organisation of Craft Manufacture

One discovers fairly uniform pattern in the entire subcontinent since distant since sure broad characteristics pertaining to organisation of non-agricultural manufacture is concerned. Mainly the crafts possessed 'rurban' character. 'Caste' played an significant role in the manufacture procedure. Further, there were sure artisans attached to the village society while others were self-governing producers. We can categorise the organisation of non-agricultural manufacture broadly into four methods:

- Village artisans;
- Self-governing artisans producing with their own tool and capital;
- *Dadani* or putting-out-organization, where artisans were supplied with money or raw material, and
- Karkhanas.

Each medieval village had artisans attached to the village society. They were the service providers to the whole village and mainly manufacture was not meant for sale in the market. Though, skilled artisans did sell their goods in the *qasba* market – shoes, blankets, cloth, wooden articles, etc.

Artisanal Manufacture

No organised labour force almost certainly lived in medieval times. Individual artisans used to produce with the help of his own or family labour, and with his own capital at their respective houses. However implements used through them were crude, they achieved high degree of efficiency. Marx has described it 'asiatic' and 'petty' mode of manufacture; while Moreland calls it artisanal organization of manufacture. Though, Irfan Habib characterises it since 'medieval Indian production'. In north India, particularly throughout the Mughal era, the state was the main producer

and best master craftsmen worked in their *karkhanas*. Still a big number of artisans were producing independently and enjoyed freedom of manufacture for the regional consumption since well since their goods were also in demand in far markets. Lahore was well-known for carpet manufacture. Manucci records 20 diversities of Lahore woollen goods were on sale in Agra market.

Non-agricultural manufacture was deeply rooted in the agrarian setting. Commenting on Mughal era Tapan Raychaudhury states that, 'Manufacturing in Mughal India was predominantly a rural action however mainly urban centres also had their artisan industries specially manufacture of sure luxury and semi-luxury goods.' Weavers and dyers did not constitute section of the village servants. But they did possess rural foundation. Spinning was approximately exclusively done through women on payment. Weavers used to buy the yarn from the 'self-governing' spinners. The largest centres of yarn manufacture were Balasore, Qasimbazar and Broach. Cotton carders hire out their services since to this date in the villages and to few extent at the urban centres through reaching door-to-door. Artisans, particularly, weavers and oil-pressers used to market their products in the surrounding markets. Fukazawa, though, discovers that in Deccan weavers and dyers were more urban than rural. In south also they shaped extremely much section of temple towns. K.N Chaudhuri referring to 17 century textile manufacture in India discovers that in north it was more cities centric while in the south and Bengal the manufacture 'scattered during the country'.

In south India craftsmen of dissimilar professions and castes more commonly possessed 'communal identity' – *Panchala*, *Panchanamuvaru*, and *Kammalar*. Craftsmen were at the centre of the development and emergence of temple cities in south India. Craftsmen not only played a significant role in the construction behaviors but also shaped section of the temple intricate in south India. Their settlements in the temple intricate were recognized since *tirumadailagam*. It is motivating to note that the location of craftsmen involved with temple construction was much dissimilar to their counterparts working in the villages since easy blacksmith, etc. There lived vast socio-economic gap flanked by the two. Interestingly, in south India however we do not discover *karkhana* kind of organisation, we do hear craftsmen attached to the temple. Therefore enjoyed patronage of the temple and right to participate in the temple administration. They used to perform the services to the temple. Portrait sculptors derived their patronage approximately exclusively from the royalty. Though, in contrast to artisans working in the *karkhanas* they not only cater to their patrons but also to the market.

European factors used to operate by middlemen. They worked since facilitators in procuring goods from hinterlands. Money advances were made to the weavers, calico printers. However initially it helped the weavers, in the extensive run slowly it led to merchant interference in the manufacture procedure. To ensure the supply European Companies slowly encouraged weavers to

settle down close to the factories. This gave rise to augment in weavers' settlements approximately European factories resulting in the emergence of new set of settlements and new equations. French advanced approximately 30,000 *pagodas* to get the weavers settled in the surrounding villages approximately Pondicherry. Interestingly, the indigenous soldiers employed through Francois Martin were used through him in times of peace for weaving. We are not certain to what extent the guilds survived or whether there lived any formal organisation of guilds. Though, men of the similar profession existed in the similar quarter/s of the city/village. In Maharashtra vital occupational organisation was caste. We do get references of *mehtare* in the Deccan. Burton Stein argues that powerful merchant guilds of the Chola era declined throughout the Vijayanagara era in the wake of the establishment of centralised bureaucracy. Though, Vijaya Ramaswamy counters that 'in the sixteenth century textile deal sustained to be in the hands of Ayyavole guild and its relationship with the textile industry sustained till the late seventeenth century.' We continue to get references to Ayiravar Nagarattar and Choolias in the seventeenth century. Nonetheless there seems to be a definite decline in the domination and prosperity that they enjoyed throughout the earlier centuries. The declining dominations of the guilds led merchants to associate themselves to a cluster of landholders who appeared since powerful private landowners and were organised since *chitrameli-periyanadu*.

In south India our era also saw emergence of weaver-merchant or master weaver employing artisans under him. It had an added advantage that it not only ensured involvement of the artisan but also of the whole household. Dutch had the main relations of this sort. Such contracts were signed through English East India Company with the chief weavers of Salawar and Janrawar weaving society. The master weaver in this case therefore represented the interests of the weavers since well since the Company. Our era is marked through the rising domination of *kaikkolas* of Valudilampattu area, particularly in the lower valley of Pennai and Gadilam and those of the *kanmala*. Their association with regional management and temple administration is suggestive of their rising domination. Throughout the 16 century records kanamalas are mentioned to have been exempted from *kanikkai*, *pavadai*, *parivattam*, and *mugantudai*.

Artisans were neither economically well off nor well treated. Pelsaert lamented the condition of the artisans: 'For the workmen there are two scourges, the first of which is low wages...The second is the Governor, the nobles, the Diwan, the Kotwal, the Bakhshi, and other royal administrators. If any of these wants a workman, the man is not asked if he is willing to approach, but is seized in the home or in the street, well beaten if he should dare to raise any objection, and in the evening paid half his wages, or nothing at all.' Bernier has also made same remarks in excess of the prevailing condition of the artisans in Mughal India. The rich will have every article at cheap

rate. 'When an Omrah or mansabdar needs the services of an artisan, he sends to the bazar for him, employing force, if necessary, to create the poor man job, and after the task is finished, the unfeeling lord pays but agreeably to his own average of fair remuneration, the artisan having cause to congratulate himself if the korrah has not been given in section payment.' In north India caste organisations did sometimes protest against use. We do hear voices of protests on the section of artisans. In 1630 at Baroda weavers declined to supply *bafta* to the English unless they stopped buying the yarn from the market for it hiked the prices of yarn. Likewise, English factor mentions a case of Baroda where weavers resisted selling the cloths to the *faujdar* on prices dictated through him and threatened to leave the city. The big level participation of artisans in the popular movements particularly the Satnami uprising, illustrates signs of artisans' resistance against use.

South Indian crafts organisations did play active role in 'communal bargaining' and protested against 'enhanced taxation.' Augment in loom tax through Krishnadeva Raya in 1513 resulted in an en masse desertion of weavers. Abbe Carre mentions that, 'there was a firmly recognized custom that if one of them is offended or wronged, all others shut their shops and abandon their job.' The other face of the story is instances of cheating on the section of the artisans are also recorded, however such cases are a some only. English factors complained at times dyers supplying half-dyed clothes. After Gujarat famine when indigo manufacture dropped sharply indigo manufacturers started mixing sand, oil, etc. with indigo.

Dadani

Dadan, a Persian word term, means to provide. Usually the advances were made through the merchants to the weavers. The capital invested through the merchant, though, could be in the shape of cash or raw material. Here artisan was producing not with his capital however still producing with the help of his apparatus and family labour. *Verlagg* in south India was same to the *dadni* where merchants used to give raw material to the weaver since advance. In south India it started under the power of the European trading companies who required the specific diversity of cloth. The quantity and excellence required, though, was determined and dictated through the investor. Therefore, while still controlling the apparatus and labour the artisans' choice in conditions of choosing raw material and the final product got restricted; their originality and creativity was lost under the dictates of merchants/companies to give specific design and approach of cloth. European factors instructed that 'those which you shall send we desire may be with more white ground and the flowers and branch to be in the transitional of the quilt...whereas now mainly section of your quilts approach with sad red grounds which are not therefore well carried here.'

The investor could be merchant or a broker. There was tendency on the section of these merchants to monopolise the regions of their investments by their mediators and at times tried to impress upon price curves. Pelsaert states that, 'The practice of giving advances to indigo producers proved extremely profitable as at that time the market price of a maund of indigo was Rs. 35-36 while through paying in advance they got it for Rs. 24-25.' Therefore merchants became indirect organisers of manufacture. In the seventeenth century we hear more of self-governing merchants than merchant organisations. The well-known names were Mir Jumla, Virji Vohra, Chinanna, Kasi Viranna, Seshadri, and Varadappa. They wielded lot of political domination. Chinanna, when turned hostile against the Dutch besieged, however unsuccessfully, Fort St. Geldria. These merchants exploited the artisans to their fullest possible capability. Somaji Chitta of Surat charged interests on the money is advanced to them. Instead of charging 1 per cent commission he charged them 12 per cent. In information weavers lost their freedom in choosing the excellence, fixing the quantum of manufacture. It practically reduced them to the stage of hired labourers and only 'thin row separated them'. But at times they save them from official oppression. These merchant-brokers served since link flanked by the Company and the artisans. It also reduced the stage of risk for the Company; even at times they made advances to the Company.

Karkhanas

These *karkhanas* were not necessarily manufacture centres. Few were, though, the real factories where manufacturing was done; while others served since royal stores, *abdarkhana*. Shams Siraj Afif calls the first kind *ghair ratibi* and the later kinds *ratibi*. The later one received fixed royal grants. In the present section as suggested, be focussing on the first kind of *karkhanas* where actual manufacture was done. In these *karkhanas* not only the things of daily exploit but also artillery and amunitions were produced. The organization of *karkhanas* seems to be a Persian importation. *Karkhanas* recognized since *buyutat* were more in the shape of royal workshops producing or storing items of value/requires required through the royal household. Persians exploited big numbers of war captives for the manufacture purposes.

We hardly get much information on *karkhanas* prior to Tughluq era. Muhammad Tughluq had employed 400 silk weavers in his royal *karkhana*. Though, Firuz's reign saw the unprecedented development of the organization of *karkhanas*. He maintained since much since 36 *karkhanas*. Afif gives a graphic account of the working of the *karkhanas* under Firuz. Under the Mughals the organization expanded further. Akbar took special interest in its expansion. Jadunath Sarkar has counted since much since 70 kinds of *karkhanas* working under the Mughals. Speaking strongly for the organization Bernier comments that, 'The arts in the Indies would have extensive ago lost their

beauty and delicacy if the monarchs and principal omrahs did not stay in their pay a number of artists who job in their homes, teach the children, and are stimulated to exertion through the hope of reward and fear of the *korrah*.’

These royal *karkhanas* were not only recognized at Delhi and other capital municipalities instead they had vast establishments at provinces since well. Shawl industry was mainly concentrated in Kashmir. Akbar is credited with popularizing the shawl industry of Kashmir to other sections of India, particularly Lahore. Throughout Akbar’s era they operated at such a huge expanse that Abul Fazl has equated them with a municipality. Akbar tried to develop shawl and carpet workshops at Patna, Agra, Delhi and Lahore. Abul Fazl mentions the subsistence of more than 1000 *karkhanas* of shawls alone in Lahore. Aurangzeb’s noble Bakhtawar Khan had wide network of *karkhanas* in Delhi, Agra, Lahore, and Burhanpur. Peter Mundy when visited Patna in 1632 establishes weavers employed through the governor Abdullah Khan in creation fine linen for his harem. Ali Mardan Khan sent to Shahjahan woollen carpets and shawls produced in his *karkhana*. We also hear *karkhanas* maintained through Shahjahan’s daughter, Princess Jahan Ara Begum. Raja of Kharagpur Bahroz was running his own workshops in which Kols, Neyas and Asuras used to smelt iron-ores and prepare lime for the Raja. In his workshops silver job was also done. Though, Aurangzeb did not extend such liberal patronage and number of *karkhanas* declined throughout his reign. But the custom of maintaining *karkhanas* did survive in the areas throughout the 18th century.

They mainly catered to royal demands, either for royal consumption or for gift purposes. Usually, luxury items and expensive materials were produced in the *karkhanas*. Though, later, for certain, manufacture in the royal *karkhanas* was not only meant for the personal consumption of the royalty and the nobility rather it was also done for the market. Afif mentions under Firuz the turnover of *jamadarkhana* in winter alone was 60,000; while that of *farrashkhana* 200,000 *tankas* per year and that of the *karkhana* of mines equalled the revenues of the municipality of Multan. G.S.L. Devra has calculated the profit of the Bikaner rulers from dissimilar *karkhanas* throughout 1694-1699 at Rs. 33,881. He concludes that it was fashionable in the middle of the aristocracy to exploit ‘branded’ products of the *karkhanas*. The articles produced in these royal *karkhanas* were supplied to several departments on market rates. This method they were vast revenues generators. But these *karkhanas* could never develop into commercial establishments for their subsistence depended mainly upon the state patronage or the patronage provided through the nobility. Since soon such patronage was withdrawn they also declined.

In the kingdoms of Maratha and Golconda *karkhanas* also urbanized on Mughal rows. Shivaji is credited with establishing *karkhanas* in his dominion. Sabhasad records 18 *karkhanas* of Shivaji. The manufacture was done mainly for the royalty and not for commodity manufacture and they

worked since mere state departments. Interestingly, *karkhanas* in the Deccan under the Marathas also employed forced labour. The era of forced labour ranged from eight days to two months in a year depending on the nature of job. At times they were paid a little amount in cash or type.

Organisation of Karkhanas

Under the Delhi Sultans each *karkhana* was placed under the charge of a distinguished noble who was in turn assisted through *mutasarrifs*. These *karkhanas* were well equipped and efficiently organised. Abul Hasan was the chief *mutasarrif* of all the royal *karkhanas* throughout Firuz Shah's reign. Initially under Akbar *karkhanas* were placed under the in excess of all charge of *diwan-i buyutat* and later *mir-i saman* looked after the office. Throughout Aurangzeb's reign, the charge shifted to *khan-i saman*. Though, *diwan-i buyutat* sustained to seem after the financial matters self-governing of *mir-i saman*. Each *karkhana* had a *darogha*, *tahvildar* and a *mushrif*. *Darogha-i kacheri* was incharge of the common supervision of the office. It was *darogha* and *tahvildar* who were in direct touch with the artisans managed and distribute the daily job and material in the middle of the artisans. *Mustaufi* was the auditor who was to verify and audit the explanations before sending it to the office of the *diwan*.

Manufactories

The first venture in this direction was undertaken through the English East India Company at Patna under Hughes and Parker in 1620-21. Around 100 artisans were employed in the *karkhana* for the manufacture of silk. In 1646 the English constructed the dyeing home for them at Ahmedabad where they not only hired the artisans but apparatus also belonged to the master. In 1652, at Palakollu on Coromandel coast Dutch built 300 jars for the purpose of dyeing blue cloth. Same dyeing workshops were built through English at Surat, Tegnapatnam, Fort St. David, Pulicat, and Fort Geldria. Though, they mainly operated by merchant-brokers.

Karkhanas and the Artisans

It will be motivating to discover out the recruitment pattern of the artisans in these royal *karkhanas*. Whether they were employed on individual foundation? Were they basically wage earners? What was their socio-economic backdrop? Or what was their status in the community?

Our information on these characteristics is sketchy. We know for certain that in the royal *karkhanas* not only the master craftsmen from India but also from Turkey, Persia, and China and

even from European countries were employed. Therefore the *karkhanas* no doubt enjoyed the services of the best artisans. Though, it is hard to say once the artisan got enrolled into these *karkhanas* to what extent he was free to produce the product of his choice – whether in conditions of design or form or colour. Manufacture was dictated since per imperial choice/wishes. Craftsmen had to job under *mutasarraf*. In return for his services he was paid wages. He had no say in the choice of raw material. It was supplied to him through the state. State provided raw material, apparatus, and legroom to job. Artisan was easy wage earner, produced since per the taste of royalty. Jahangir in his *Memoirs* mentions that, ‘I ordered the Ustads Puran and Kalyan, who had no rivals in the art of engraving to create dagger hilts of a form that was approved at this time and has become recognized since the Jahangiri fashion. At the similar time the blade and the sheath and fastenings were given to skilful men, each of whom was unique in his age in his art. Truly, it was well accepted out just as to my wish.’

However it is hard to examine whether there lived hierarchy in the middle of the artisans, it looks that there did exist few sort of gradation in the middle of the artisans on the foundation of their skills. Abul Fazl mentions a vast chain of artisans employed in structure construction from stone cutter, plasterer, carpenter, sawyer, lattice maker, brick layer, glass cutter, etc.

In these *karkhanas* the artisans not only lost their freedom since producer they even received much below their skill. Pelsaert has commented on the pathetic condition of artisans in these *karkhanas*, ‘artisans had to job from dawn to dusk only to get 5 or 6 tachas in the evening. He was enrolled through force. In case of resistance the reward was good beating and half the wages.’ Another biggest blow was once they got employed in the *karkhanas* much of their family labour used to go waste. On explanation of their poverty they were hardly in a location to bargain. It was not simple for them to take their goods to far market in hope of high prices. Usually they sold their goods in the regional market at low prices. The chief transformation flanked by artisanal and *karkhana* manufactory manufacture was that the craftsmen who were owners, master, producer and seller started disintegrating and lost their freedom in the procedure.

Wages

We have extremely small information on this. The only information of object is provided in the *Ain* through Abul Fazl. But that too symbolizes prices prevailed at the capital municipality/ royal camp. The artisans in the *karkhanas* were paid either monthly or on daily foundation. In the eastern Deccan in 1620 blacksmiths, goldsmiths, etc. were paid 8.4-9.6 pice a day and their helpers around 2.8 to 3.2 a day. Likewise, wages of the workers in the Kulur diamond mines were 2 pice a day.

We do hear of protests against the low wages. In 1660 it was accounted to Aurangzeb that the *karkhana* workers refused to accept the wages in devalued new coin; accordingly their wages were raised from 1 to 1.5 *tanka*. In a same incident Ali Muhammad Khan records a complaint of construction workers of Ahmedabad in 1671-72 in excess of the low wages. Aurangzeb instructed *diwan* of the *suba* to seem into the matter and asked that they may be paid since per the recognized norm. While lamenting in excess of the poor pay of the craftsmen Pelsaert even attributes it since the largest cause behind the lack of incentives for the craftsmen to produce excellence products or augment productivity. Though, in spite of low wages Moreland examines that the workers employed in Mughal *karkhanas* were 'bigger off than several labourers of the present time.' Shireen Moosvi's analysis also suggests that 'purchasing domination of wages in conditions of cereals was significantly higher in 1595 than in the latter half of the 19 century... □ and □ a separate fall in the real wages of skilled artisan too.'

Specialization of Crafts

We get definite proof that specialist craftsmen were employed to perform specific behaviors in the royal *karkhanas*. Moreover, such specializations can also be seen in artisanal manufacture. Weaver, the master craftsman sitting in the transitional involved working with his loom while you can also see a distinct winder rewinding yarn, and also cotton carders and dyers busy doing their job. The cotton and cotton yarn were freely accessible in the Gujarat markets. Village Sobay close to Gujarat was exclusively 'weavers and spinners' village.

Broach appeared since a prominent centre for high excellence bleaching on explanation of availability of good excellence water and the attendance of skilled artisans. From Ahmedabad, Baroda and Agra textiles were coming for bleaching to Broach. Therefore well-known were the Gujarati bleachers that their attendance is recorded in Java in 1642. Even English factors requested to send few bleachers to Bombay. Weaving and printing were two distinct operations. Same was the case with yarn manufacture. With great augment in demand there appeared special class of labourers who were involved in manufacture of yarn only. Broach also appeared since well-known centre for the manufacture of yarn. Their manufacture seems to be market oriented. When Gujarat famine affected the yarn manufacture scarcity of yarn in the market led to fluctuations in the prices of cloth and affected other operations of textile manufacture.

Indigo was another production where such division of labour lived. The procedure required a cluster of persons and could not be performed alone. It could be hired labourers or family members. In Gujarat exploit of hired labour in the procedure can definitely be discerned for here producer of the crop and the manufacturer of the product were at times dissimilar. Those buying indigo leaves

and manufacturing it definitely necessity be employing hired labourers. We do get proof of Europeans buying leaves and receiving the dye manufactured through employing hired labourers. Saltpeter manufacture was also no exception. It required attempts of clusters of workers to procedure the manufacture from mining to finished product. Duarte Barbosa informs us that 13 persons were occupied in performing the operations from mining of carnelian rock to its final processing. In diamond mining exploit of hired labour was a general characteristic. John Fryer mentions coral being wrought at the home of a 'Hindu' and 'Moorman' cut all sorts of stones clearly designate the subsistence of specialization and division of labour.

There lived a thin row flanked by the artisans and soldiers. In information throughout the medieval ages when sword was the prime determinant in south India particularly we discover people of all professions and dissimilar traits joining the profession.

Technology and Apparatus

Babur in his *Memoirs* praised India for its 'unnumbered and endless workmen of every type' of craftsmen. Artisans urbanized occupational specialization and technological mastery through studying the similar profession from generations. The point is well illustrated through Bernier: 'The embroiderer brings up his son since an embroiderer, the son of a goldsmith becomes goldsmith...No one marries but in his own deal or profession, and this custom is observed approximately since rigidly through the Mahometans since through the gentiles, to whom it is expressly enjoined through their law.' Pelsaert also echoes the similar voice: 'workmen's children can follow no job other than that of their father.' However medieval artisan enjoyed high reputation but his apparatus were extremely primitive and easy since compared to Europe and China. However spinning wheel brought wonders since for manufacture of yarn is concerned but the yarn produced was coarse and for excellence manufacture artisans had to bank on traditional apparatus. The well-known muslin of Dacca was not spun on spinning wheel instead a bamboo spindle was used. The implements used through them were crude, but they achieved high degree of efficiency and ability pursuing the similar profession from generations. We do get few faint references pertaining to attention paid for the improvement of apparatus of the artisans in the *karkhanas*. With a wish to produce bigger textiles than Ahmedabad, Raja Jai Singh of Amber ordered that for the *karkhana* of Jai Nagar apparatus be made of special type of wood.

Craft Mobility

Throughout the seventeenth century European travelers were astonished seeing the mobility of weavers on Coromandel coast. The prime cause behind the size migration was either instable political circumstances or protest against enhanced taxation or natural calamity.

But sometimes such mobility was also restricted through the state. In 1622-23 governor of Broach denied permission to five carpenters shipbuilders to migrate to Surat. Likewise, famine condition also forced weavers to migrate. Gujarat famine was therefore severe that textile workers migrated in great numbers from the area. English effort to promote Surat resulted in regional Parsi cultivators opting for weaving since one of their profession. Soon they appeared out to be one of the finest weavers in Gujarat. Ovington mentions them since the largest weavers of silken fabric. Alexander Hamilton records the attendance of a tailor from Surat at Achin under whom ten workers were working. There are also references to the attendance of Gujarati bleachers since distant since Bantan.

Max Weber argues that in India caste organization prevented inter craft mobility. Rejecting Weber's argument Irfan Habib has accentuated that the huge battery of skilled/ unskilled workers/artisans shaped a sort of 'reserve' out of which on the one had new classes of professions created; contrary to it under pressing conditions they also withdrew to their original status being absorbed into the old village settings. At times more than one caste followed the similar profession. Further, since Irfan Habib puts it they were never 'eternally fixed in their attachment to single profession or skills.' We do get references to craftsmen shifting to another profession under 'economic compulsions' Therefore since rightly put through Irfan Habib that 'caste did not symbolize an insurmountable obstacle to the mobility of craft labour.'

In the Deccan since well caste foundation of organisation of manufacture does not seem to be extremely rigid. Fukazawa mentions that throughout the early 18th century a part of tailoring caste joined the profession of dyeing. Throughout 17th century on explanation of rising demands for textiles there occurred big level migration of weavers from Sindh to Gujarat. In Gujarat printers shaped distinct caste recognized since Bhadar. Likewise, dyers constituted a distinct caste in Gujarat. Initially Bohras of Gujarat were involved in manufacture since well since sale of saltpeter. Later *Banjaras* also began the operation. Though, they had to leave the profession on explanation of excessive state interference.

In south India since well medieval era saw proliferation of weaving castes – Pattunulkarar, Mooree, or Caingaloon, etc. and there does not seem to be immobility of craft professions.. In the Puddukottai area few of the former military clusters *kaikkolar* and *niyayattars* became weavers through the late 13 century. Though, Alaev, commenting on situations in south India, maintains that,

‘Technical improvements were to a great extent checked through caste rules’. Nonetheless caste support ‘served since a safeguard to their right.’ He argues that these caste ties were more ‘cohesive’ in the cities strengthened through ‘territorial’ boundaries.

It is motivating to note that craftsmen in medieval south India discover wielding swords and joining the state service since warriors/soldiers and their involvement in cattle raids. Mugabala inscription of AD 1337 refers to goldsmith Maroja’s son Varadan died in a cattle raid.

Medieval Women and Craft Manufacture

Throughout the medieval era mainly women’s role in the whole manufacture procedure was that of a ‘subordinate’ partner and was ‘marginalised’ in the entire procedures. Textile was the one craft where women’s participation seems to be the maximum. Women mainly involved in separating the cotton fiber from the seed. However *dhunias* were mainly men, scutching with hand-beating was done through women. Spinning was the region where women were in sole command. In bleaching, dyeing and printing almost certainly both participated jointly. We do get distinct word for male and female printers. At Cambay Duarte Barbosa mentions the attendance of Muslim washer-women.

Besides textiles, women job hand in hand with men folk in the construction behaviors. In the Mughal paintings women are shown involved in breaking stones, preparing lime-mortar, carrying it in pans. Though, there is no proof of women laying bricks or doing plastering, etc. In south India women were allowed to exploit bellows but ‘not permitted to forge the iron.’ Women were also not allowed to assume the prime role of a designer while they were involved in the procedure of polishing, cutting, etc. in jewellery creation. In one of the reference from Maharashtra, man is mentioned operating the oil mill, while woman was occupied in its selle.

Monopolies

Monopoly had adverse impact on the artisans. It not only affected their freedom of job, state being the sole purchaser of the commodity, artisans used to get much below the prevailing market price. Manufacturing in the *karkhanas* was a state monopoly. English factors record that tapestry at Lahore was the monopoly of the Mughal emperors. Skein silk was state monopoly and to purchase it one had to take the permission of the regional *kotwal*. It was normally priced at 25-37 per cent higher than the actual price. The factor of the first commercial mission at Patna tried an unsuccessful experiment in winding skin from cocoons in a *karkhana* with 30 silk winders. Aurangzeb monopolized Bee-wax and salt in Chittagong, Dacca and Hugly. Mines and minerals had always

been the state monopoly. Saltpetre was another industry where official interference was the utmost. In 1647 Mughal emperor reserved the right to employ saltpeter refiners in the imperial establishment and nowhere else. It affected English factory's fortunes greatly for they were doing the refining job themselves at Surat. Since a significant ingredient for gunpowder it was a sought after and prized product. In 1630 Shahjahan banned its export from Gujarat. John Albert de Mandelso records that foreigners were not allowed to export saltpeter, lead and gun powder without the permission of the governors. Tavernier refers to an motivating method of monopolising lime through the state, 'All the waggons which came to Surat from Agra and Jahanabad, are compelled to carry lime which comes from Broach, and which, since soon since it is used, and becomes since difficult since marble. It is a great source of profit to the emperor who sends it where be pleasure.'

Diamond mining was the monopoly of the rulers. Even stones of more than 10 carats were the property of the king. Shivaji earned great profits out of his salt monopoly. Shivaji arbitrarily fixed the prices of salt at a higher stage in the area of Prabhavati-Kalyana-Bhivandi. Fixation of higher prices on the section of Shivaji immediately turned the flow of deal in favour of Bardesh. To combat that Shivaji imposed higher transit duties therefore that in the final analysis salt at Sangameshwar apparently emerged cheaper to the merchants than that of Bardesh. It seems that effort was made purely to enhance the fund of the state but the regional consumers within his own state necessity have severely been affected through the rise in salt price. But, as all circuits to Goa passed by Shivaji's dominion merchants could not avoid high transit duty resulting in balancing the lower prices of Portuguese Goa. Shivaji ensured defense for his own merchants from ruin.

Likewise, Governor of Baroda forced weavers to supply the cloth at prices fixed through him. In 1647 regional governor at Ahmedabad forced indigo producers to pay Rs.250 to permit them to sell their commodities in the market. In 1620s Broach Governor made it mandatory to sell all narrow and broad *baftas* to him only.

Debates

Let us ascertain the development potential of medieval Indian economy – whether it was static or dynamic and whether it possessed potential for capitalist manufacture. If therefore then why could it not take off? We have already seen since distant since agricultural manufacture is concerned medieval economy was in no method stagnant and laggard. Since for nonagricultural manufacture, foreign travelers, particularly Bernier is all praise for enormous mass of craft manufacture. Though, W. H. Moreland argues that such manufacture was actually confined to large cities and sure specific centres of manufacture. Otherwise, in common craft manufacture was not to such an long level since

called through foreign travelers, particularly considering the 'poor' purchasing domination of the general masses.

The English efforts to procure saltpeter from Malpur and get it refined at Surat at their own establishment do suggest few unit of capitalist shape of manufacture but on explanation of sure 'extra' factors the experiment was short-existed. Likewise, involvement of European capital in the manufacturing of indigo manufacture does indicate few penetration of foreign capital in the indigenous manufacturing procedure. Though, its effect were almost certainly not since alarming since in the 18th-19th centuries but the procedure of colonization of Gujarat economy began. Alaeu agrees that in south India the 'deal-artisan connection contained few capitalistic characteristics nonetheless the 'connection were interwoven with pre-capitalist ones, i.e. the caste solidarity.' He concludes that 'all these shapes remained within the limits of the traditional organization which was not disrupted either through the action of native capital or through the penetration of the foreign merchant capital.'

There is no doubt that throughout the medieval era free labour was accessible to sell his labour in the market, a pre-requisite to capitalist shape of manufacture. But to what extent the practice was widespread to assume a "capitalist shape of manufacture." To examine the issue in this context role of middlemen/brokers assumes great importance. As the manufacture was organised to a big extent on individual foundation it were the middlemen worked since link to finally transport the goods to the consumer. Their role particularly became 'pivotal' with the rising involvement of the Company deal. Throughout this era merchant capital also dominated the manufacture. However merchant capital was visible in all crafts, it brought nothing but misery to the craftsmen.. We do discover in sure branches of manufacture few involvement of capitalistic characteristics of manufacture in sure areas, but it could not take off. Pavlov attributes it to 'deep roots of the feudal community'. Max Weber attributes caste organization since detrimental to economic growth/development in India throughout the medieval era.

We would like to secure the discussion on this issue with Irfan Habib's remarks that, 'In therefore distant since capital, confined practically to the sphere of commerce, had failed to develop any self-governing foundation for itself, its fortunes would lie with the Mughal ruling class, and, after its collapse, with such other classes since imitated or inherited the ways and organizations of that class. Denied, throughout the eighteenth century, the big market it had been provided with through the Mughal empire, merchant capital had no choice but to atrophy. With this also receded into the backdrop those prominent economic landmarks, which on the bigger days of the Mughal empire might have been mistaken for capitalistic characteristics.'

TAXATION

Islamic Theory of Taxation

Our era in north India mainly coincides with the establishment of Turkish monarchy in India. The new ruling class coming from dissimilar environment was culturally extremely much dissimilar from their precursors. They had their own organization and set of rules of governance. So it would be pertinent to talk about in brief the legacy of the Turkish monarchy. It will be of few interest to know that to what extent they implemented the laws of their land. Though, here we are concerned with the theoretical location – the rules that were professed through the Muslim jurists. What they did actually implement will shape section of the subsequent Parts. The procedure of the formation of Islamic principles of taxation began since early since Caliph Omar's time and sustained upto Abbasid era. Predominant schools of Islamic idea are Hanafites and Shafites. In India Muslim monarchies mainly followed Hanafite school of idea.

Muhammad bin al-Hasan al-Tusi mentions four dissimilar kinds of lands on the foundation of nature of possession:

- Those who had willingly carried Islam were to pay *ushr* and possessed full ownership rights.
- Land of the Muslim society engaged through exploit of force. This was *kharaj* land. The cultivator was to pay $\frac{1}{2}$ or $\frac{1}{3}$ since rent and he also had to pay *ushr*. Irrespective of the information whether someone had taken section in occupying the land, the land belonged to the whole Muslim society and its proceeds were accordingly be divided in the middle of all.
- *Sulh* land: Where *imam* had entered into an alliance. The land was to be retained through the owners on payment of half, a third or a quarter of the produce. This category of land belonged to non-muslims, and
- *Anfal* lands abandoned without fighting, dead lands, and lands on mountain tops, plantations and the lands of previous kings. Significant point to note here is that Muslim jurists recognised 'ownership' rights.

Broadly the sources of revenue were divided into *fay* and *zakat*. *Fay* lands were those 'acquired through unconditional surrender. The Shafites uphold that it was *ghanima* and should be divided in the middle of all combatants; while Hanafites argue that it could be divided in the middle of the combatants or else *imam* may permit its inhabitants the ownership rights an payment of *kharaj*. Just as to Hanafites the revenues of the *fay* lands should be spent for the welfare of the Muslim society such since stipends of soldiers, *ulama* and other officials, for the maintenance and defense of municipalities and highways, structure dams and dikes. Though, Shafites argue that $\frac{1}{5}$ of it should be set separately.

Fay could broadly be divided into *khums*, *jiziya* and *kharaj*. *Khums* means one fifth. State was entitled to one fifth of the war booty. *Jiziya* was levied on non-Muslims in lieu of defense and exemption from military service. The jurists differentiate in the middle of those who submitted without fighting and others who were defeated in the battle. The former were treated leniently. Initially Christians, Jews and Sabaeans and later Zoroastrians were recognized since *dhimmis*. Shafites, though, uphold that *jiziya* may be imposed only on Jews, Christians and fire worshippers; while for Malikis all unbelievers are *dhimmis*. Abu *Hanifa* and Abu *Yusuf* opine that *jiziya* could be paid through those who worked. Therefore, women, children, illiterates, lunatics, slaves, monks, old men and persons without property were exempted from it. Foreigners who were not permanent settlers in the area were also exempt. The tax was not imposed consistently on all classes. The rich paid 48 *dirhams*; transitional class 24 and poor paid 12 *dirhams* annually. It was not compulsory for the imam to impose tax nonetheless it was lawful. In return the *dhimmis* were ensured defense to life and property and religious freedom, etc. Therefore those who paid the tax could not be enslaved and they were to be governed through their own laws.

Kharaj was the land tax assessed either on the foundation of the proportion of the produce or since per the actual region cultivated. Measurement was done with the help of *jarib*. In fixing the *kharaj* excellence of the soil, nature of the crops sown and ways of irrigation employed were taken into explanation. The state's share on the foundation of crops ranged from one half to one fifth. In case of natural calamities sure concessions were made. Mode of extraction depended upon the nature of assessment. It was made in type and was claimed at the harvest time. In case of cash it was extracted on annual foundation. Initially Muslims were exempted from its payment but later it was to be paid through both consistently. Muslim jurists also recommend provisions for advancing loans to the cultivators. In case of the inability of the cultivator to pay state reserved the right to let out the land to someone else but it was soon restored if the owner/holder showed his willingness to pay the revenue.

Zakat shaped another source of income to the state. It was primarily a religious tax. It was incumbent upon all Muslims to pay. It was levied on both movable and immovable properties ranging from dwelling homes, clothes, slaves, drought animals, food-stuffs, gold, silver, etc. *Zakat* was not to be imposed upon infants, slaves, lunatics, debtors, insolvent and the non-Muslims. Tax imposed on immovable property was recognized since *ushr*. Tithe was another tax extracted only from the Muslims. It was levied on actual produce of the soil and was separate from *kharaj*. Minors, lunatics, and *waqfs* were not exempted from its payment. It could be extracted in the form of granules, vegetables, etc. The rain fed crops and wild fruits were taxed at the rate of one tenth of the produce while crops grown with the help of artificial means of irrigation had to pay one half of the

produce. Abu Hanifa insists that tithe could be imposed only on the tithe lands. It suggests that both, *kharaj* and tithe can not be levied jointly. Though, Shafites differ and insist that both could be imposed simultaneously.

Land Tax

The biggest portion of peasants' surplus was extracted by land tax throughout the medieval era. It will be motivating to discover that the pattern of imposition of land tax was more or less uniform crossways areas. As suggested, talk about the nature of land tax from Sultanate to the Mughals. It assumed its classic shape under Akbar and then onwards sustained to be extracted on the similar pattern during the 17th century. It will be motivating to see how with Mughal penetration in the Deccan procedure of assimilation took lay. Existing local systems adjusted to new shapes nonetheless retained local identities.

North India

Agricultural surplus constituted the bulk of the state's income throughout the medieval era. The new ruling class, coming from a dissimilar environment, with dissimilar cultural backdrop, possessed a dissimilar vision to seem at issues. That is apparent in every sphere. It took them small time to penetrate into the rural regions. Initially, Turks settled in excess of lumpsum tribute from the subjugated overlords of the previous regimes, without disturbing the age old norms at the grass root stage. That too was at times not possible for them to firmly insist, particularly in the 'rebellious territories'. It took approximately hundred years to the new ruling class to interfere with the recognized rural set up. It was Alauddin Khalji who tried to impose uniform taxation. Alauddin imposed *kharaj - o jiziya* on all classes "without any exception". The land was considered and the yield per element of the region assessed. Through multiplying it through the region under farming the demand was fixed at one half of the produce consistently on all including the larger right holders *khots*, *muqaddams*, and *chaudhuris*. Barani mentions that it was imposed consistently on *khots* to *balahar*. The demand was assessed in type but payment could be made in cash. Perhaps the revenue collectors' preference was for cash. Though, we do get references that in the *khalisa* territories in and approximately *Doab* Alauddin encouraged the collection in type. The assessment seems to have been done on individual foundation, but it is doubtful whether in practice it was the norm.

Ghiyasuddin Tughluq did effort to please the intermediaries – *khots* and *muqaddams* through exempting them from paying *kharaj - o jiziya* in lieu of their services in revenue collection. Though,

Muhammad Tughluq not only reverted back to Alauddin's organization of taxation but also enhanced it considerably. Barani conditions it in 'order of one to ten and one to twenty'. Yahya bin Ahmad Sirhindi informs us that they considered the meadows and calculated officially decreed yields with officially decreed prices. On explanation of officially decreed yields i.e. average yields and officially decreed prices tax necessity have inflated heavily as the officially decreed yields and prices were almost certainly much higher than the actual prices in mainly of the localities.. Though, Firuz not only reversed Muhammad Tughluq's ventures, but went a steps further. He made concessions through abolishing cesses, limiting it to 4 per cent of the *kharaj*. We do not have details on the pattern of land tax under the Saiyyids and the Lodis, but we do hear that on explanation of sharp decline in prices Ibrahim Lodi asked his administrators to extract the revenue in 'food granules'. It suggests that on explanation of scarcity of 'coin money', Ibrahim insisted on collection in type. But prior to Ibrahim Lodi almost certainly the land tax sustained to be extracted in cash.

Land tax assumed its "classical" shape under the Mughals. The basis was laid through Sher Shah Sur. Akbar mainly expanded and refined the legacy he received from his predecessor. It will be motivating to discover that the land tax was actually not a tax on land instead it was a tax on crops. In India the earliest shape of extracting land revenue was *ghalla-bakhshi* or *batai* which was based on actual harvest when the crops were still in the meadows. Sher Shah assessed the *rai* ' through assessing the productivity of three dissimilar categories of land – good, middling and bad. An standard of the three *rai*' was assessed and the total demand was fixed through multiplying the per *bigha* productivity through total region under farming and later the demand was commuted since per prices prevalent at the court/camp. This organization was commonly recognized since *kankut*. It greatly reduced the official expenses. Though, it led to excessive reliance on the section of the state upon regional officials and as the prices used were those prevalent at the court it were usually quite high than the prevalent market prices. Therefore, it fell heavy upon peasants and was not favorable to them. It also involved delays as the process of commutation used to take extensive. Besides, uncertainties prevailed for the state did not know how much would be an annual estimated income in the current year. Abul Fazl informs us that instead of fixing *rai* 'at each harvest Akbar ordered a average schedule. To prepare a average schedule an standard of last 10 years' rates were taken and an standard of the prevalent prices of the similar 10 years' were calculated. Through commuting these standard prices with standard yields a average 'final *dasturs*' were worked out. Therefore the revenue demand was assessed and cash revenue demand per element of the region for each crop was fixed. This was the *zabt* organization operational under Akbar. Now neither the cultivator nor the official had to bother, both knew in advance what one had to actually pay or else what the state had to extract through basically multiplying the cash rates per *bigha* with the total region sown. The only

deviation being the *nabud* i.e. the region that was left uncultivated for which remission in taxation was provided through the state. The core region where *zabt* organization was in operation under Akbar comprised Delhi, Agra, Allahabad, Oudh and Lahore. It was recognized since *zabti* provinces on explanation of the prevalence of *zabti* since dominant shape of revenue extraction. Later, under Shahjahan and Aurangzeb the organization further stretched towards Deccan. Though, in due course even this annual assessment was done absent with and previous year's region statistics were usually taken into consideration to determine the land revenue demand. The practice was commonly described *nasaq*.

Here the significant point to keep in mind is that when we call a scrupulous region '*zabti*' it means that '*zabt*' was the 'dominant' shape of assessment in the area. Though, other ways also co-lived. In Kashmir and Sind crop-distribution was the dominant shape of assessment. In Bengal the prevalent shape was *muqtai* in which a fixed lumpsum amount was to be paid. In Rajasthan both the crop rates, *batai* and *zabti*, were prevalent but the region under *batai jinsi* was much superior than *zabti*. There were also local differences. In *suba* Multan, Thatta, and Siwistan three kinds of revenue rates prevailed – *dastur*, *kam dastur*, and *batai*. In the eastern tracts, particularly in the hilly tracts, to encourage farming big concessions were granted. The peasants were to pay only the nominal rent in the first year and in the second year the demand was reduced even further. Here Akbar's rates were not in operation.

You will discover that differential rates of assessment lived under the Mughals and the incidence of revenue demand varied from area to area depending on the fertility of soil and also from harvest to harvest. Under Sher Shah 1/3 of the produce was a average claim. Though, Akbar, under *zabti* demanded approximately 1/2 of the produce since average. In sure fertile tracts of Gujarat the demand was since high since 2/3. Though, in dry areas it was much lower. The standard revenue demand in western Rajasthan ranged flanked by 40 and 42.5 per cent suggesting it was lower than the Mughal territories.. In the Marwar area land revenue demand varied since per the nature of crop and season. *Pargana* Merta records illustrate that here in the 17 century proportion fixed on *khari* crops was 1/2 while for *rabi* dissimilar rates for rain irrigated and irrigated lands were in operation. It was 2/5 on the former and 1/3 of the produce on the latter. In *pargana* Pokharan we get references to revenue demand imposed since per *baori* at the rate of 1/3 of the produce; while at spaces like *pargana* Sanchar, western Rajasthan, assessment was made on the foundation of ploughs/*hals* recognized since *muqata*. Revenue demand also varied since per the caste of the peasant/cultivator. In *pargana* Jalor banias, *ghanchi*, *sabugar*, *kunbhai*, *pinjar* were paying at the rate of 1/3 of the produce while Rajputs 1/4 and Malis 1/ 5. Here land tax was even imposed an *mehtar* at the rate of 1/6 of the produce.. Therefore, larger right holders and higher castes were assessed at much lower

rate since compared to ordinary peasants. This was the largest cause behind the reluctance and insistence of the Mughal emperors not to convert *raiya kashta* into *khud kashta*. S.P. Gupta's findings for eastern Rajasthan also illustrates that the *raiya*s were assessed at much higher a rate since compared to the privileged strata. However assessment was made on individual foundation the vital element of collection was the village. Throughout the medieval era usually the collection was done at three dissimilar stages:

- Where state was collecting revenue directly employing its own machinery of officials. Such organization was in operation in the *khalisa* territories under the Mughals.
- Revenue assignees were permitted to collect the revenue in lieu of their salaries described *iqta* and *jagir* or *tuyul*. Here revenue assignees were sending their own mediators for collecting revenues.
- In the third category mainly approach port cities and their hinterlands where altogether a distinct organization was in operation.

State was extremely strict since distant since the collection of revenue was concerned. Refusal to pay it was deemed equivalent to rebellion. Imprisonment, massacre of adult male population, and enslavement of women and children were general shapes of punishment. We do not have much information concerning the revenue *management under* the Delhi Sultans but an elaborate organization of revenue collection prevailed under the Mughals. There were dissimilar systems in operation for *khalisa* and *jagir* lands but unluckily we do not have much information on how the *jagir* lands were administered. The information that we have mainly pertains to *khalisa* territories. At *pargana* stage there were *amils* and *amin*. In the 19 R.Y. year when Akbar introduced *karori* experiment *karori* was made incharge of both assessment and collection. It was Shahjahan who separated the assessment from collection and appointed distinct *amins* for each *mahal* and from his reign onwards *amins* looked after assessment while the *amils* performed the occupation of revenue collection. In *jagir* lands almost certainly *amil* combined all the functions of revenue assessor, collector and treasurer. Distinct *amins* were appointed to collect *jiziya* described *amin- i jiziya*. At village stage the *chaudhuri* engaged significant lay. Generally a *zamindar* performing the duty of revenue collection was recognized since *chaudhuri*. In lieu of his services he was entitled for *nankar*. *Qanungo* was another significant semi-hereditary official who was appointed both at *pargana* and village stage. He was chiefly linked with revenue assessment and maintained the revenue records.

Deccan

Prior to the Mughal job of the Deccan revenue demand since well since collection was *done* in type was the Deccan. Another prominent practice that prevailed in the Deccan was ‘cultivation by an elaborate series of lease and sub-leases’. Even the post of governors could be held on cultivation conditions i.e. they were to pay a lumpsum amount annually in lieu of the post held. These governors were mere ‘speculators’ for they immediately used to sub-let the land on high profit. These sub-letees were recognized since *havalgars*. There did exist state appointed *amils* but their prime concern was to ensure the state’s revenues. The only check, though, came from the regional dominant land-holding castes – Razus, Valamas, Kammas, and Kapus, and Brahmans in *agrahara* villages. They were not easy cultivators but shaped ‘warrior cultivating’ castes, ‘wielded immense political, economic and military domination in the countryside.’. In Gujarat such Rajput warrior cultivators were ejected after extensive drawn clashes but in the Golconda area they worked jointly in full cooperation with the Telegu warriors. Qutb Shahi rulers appointed *deshmukhs/ desais* who maintained retainers and helped the *havalgars* and *karkuns* in revenue collection. In return they received 5 per cent of the revenues composed. In each *paragana deshpandes* were appointed to uphold the records who were usually Brahmans. Their remunerations were almost the similar since those of the *deshmukhs*, but a small less. At village stage there were *muqaddams* and *kulkarni*. This organization helped ‘sustained productivity of agriculture in Golconda despite a seemingly ruinous tax organization.’.

The biggest reforms in the land revenue organization in Deccan took lay at the time of Aurangzeb’s tenure since governor of Deccan in 1652. He entrusted Murshid Quli Khan, *diwan* of Berar-Balaghat with the responsibility. Therefore he made the beginning of the *zabt* shape of assessment in the Deccan. Murshid appointed trusted *amins* and surveyors to measure the land. He got detailed records made of the individual holding and distinguished the arable land from rocky and hilly soils, rivers, lakes, etc. After the assessment was done he introduced crop distribution on the foundation of three rates: a) state charged $\frac{1}{2}$ of the produce on crops depended on rainfall; state demand was fixed $\frac{1}{3}$ in food granules $\frac{1}{9}$ to $\frac{1}{4}$ in case of cash crop; crops depend on well-irrigation; and on lands irrigated through canals the demand varied substantially. At times it was much lower than the lands irrigated through wells. The standard rate of assessment amounted to $\frac{1}{4}$ of the produce. Murshid assessed revenue rates on the similar rows since were under the *zabt* in the north. They were assessed per *bigha* on the foundation of actual region sown, prevailing market prices, and excellence and quantity of crops produced. They were commonly recognized since *dhars* in the Deccan. The village constituted the vital element of assessment. Murshid’s organization with small modifications mainly sustained throughout the 18th century.

After the Mughal job of Deccan in 1689-90 Muhammad Shafi, *diwan* of Hyderabad accepted out a survey and fixed the revenue afresh. These figures were *pargana* and *sarkar*-wise for the whole Mughal engaged Deccan and were compiled in early 18th century in *Deh-be Dehi*. It sustained to shape the average revenue in later eras since well under Nizam-ul Mulk. The common Mughal rule was to take $\frac{1}{2}$ since state's share. But it varied depending on 'other' factors – poor harvest, famine, etc. One document from Rajahmundry of 1741- 42 reveals that in 39 villages the range varied from 3.3 per cent to since high since 68 per cent.

All documents pertaining to land revenue assessment were to be signed through *zamindars* confirming that they agreed/consented to pay the agreed amount in the attendance of *deshmukh* and *deshpande*. Muhammad Shafi attempted to set up contacts with the regional officials of the area. In Telengana he recognised their location and perquisites and conferred *sanads* upon them on payment of their annual allowances. The amount fixed was existing allowances multiplied $7\frac{1}{2}$ times. In Hyderabad *suba* there was an standard augment of 13 per cent; while in interior Telengana the augment made was around 10 per cent. But there was a steep rise in the coastal Andhra regions. The standard enhancement was 20 per cent. However the amount could be paid in instalments, it necessity have been detrimental to the peasantry. Mughal officials on similarity rows were implanted in the Deccan since well – *chaudhuri* and *qanungo*. But we are not certain whether other regional officials on same rows were also appointed there. Richards mentions that in the Telengana area Mughals had to still depend mainly 'on the goodwill, loyalty and efficiency of the Reddi, Valama and Kamma *deshmukhs* and to a lesser extent the Brahmin *deshpandes*.'

Though, the situation in the 6 districts of the coastal Andhra was somewhat bigger and linkages with the regional *deshmukhs* were more 'direct'. *Amin* and *faujdars* appointed at the coastal districts could set up direct contacts with them. Though, immediately after the resolution Muhammad Shafi establish it hard to get information concerning annual collections. Therefore, a *qanungo* was appointed since provincial recorder to uphold the revenue records in Hyderabad and Hyderabad Karnatik. Here his location seems to be much higher than his counterpart in the north. The first *qanungo* appointed was Babu Pandit. He was officially designated since *zamindar* holding a *mansab* 200/70. Later his *mansab* was enhanced to 300/100. He was also exempted from branding the horses. It clearly suggests his separate location since compared to his counterpart in the north. We do not approach crossways appointment of such *qanungoes* prior to Aurangzeb. The first reference to it comes from 1670 when 3 brothers were appointed since provincial *qanungoes* but they were not allotted *mansabs*; instead they received 0.5 per cent of the total revenues of the provinces. Soon Babu Pandit bought the post of accountant of *sair* collections from the capital and Golconda fort. Here it is significant to bear in mind that no such buying of posts from the state was a norm in north

India, however we do hear of the sale of *zamindari* rights. His dominations therefore increased that he was dismissed in 1702 but again got re-appointed in 1708.

Malik Ambar's Settlement and the Maratha Land Tax

Malik Amber, the Prime Minister of the Nizam Shahi kingdom of Ahmednagar revolutionized the land resolution in the Deccan to the extent that it shaped the foundation of all land-reforms in the *Deccan*. Marathas also adopted the similar organization with small modification. Malik Amber ordered the land of his whole kingdom to be surveyed and considered. Prior to that usually revenue cultivation was the norm. For measurement *kathi*. Marathas described it *Sivasahi kathi*. Malik Ambar classified the land into four categories on the foundation of excellence of the soil and the nature of crops sown. Throughout Shivaji's era three assessments were done through Dadoji Kondadeo, Moro Trimal and Annaji Datto successively. Revenue officials were to visit a *tapa*, a hilly, a marshy village, and a village with black soil and therefore prepared the estimates. Annaji Datto made a provision that *pargana* and village officials and the villagers necessity agree upon the estimates of the produce. This practice of involving villagers since you have seen was also sustained in the Mughal Deccan. Waste lands, general pastures, and land under trees were exempted from assessment. Measurement once done was not followed annually; only in case of complaint or require, fresh measurement was usually ordered. The demand was fixed both in cash and type. In case of type it amounted to 2/5 of the produce; but when it was demanded in cash it was 1/3 of the total produce. Differential rates were charged when a new region or cultivable waste lands brought under farming. There is an motivating document dated 1561 pertaining to city Shirwal, *pargana* Shirwal. The regions close to a tank in the *pargana* were lying fallow for extensive. To get it cultivated the following rates were charged.

The significant aspect of the two documents is what Malik Amber had started was almost certainly not something completely novel; rather the practice was already in vogue in the area. Though, we do not know whether prior to Malik Amber the practice of actual measurement was in operation or not. It seems that Malik Amber, through introducing measurement, refined the existing organization. Another motivating aspect related to AD 1561 document is that distinct cash rates were in operation for *city* and *village* lands. We do not know how the cash rates were determined but differential rates were charged on the foundation of soil. From a record of village Rahimatpur, *pargana* Var in Maharashtra rates were mentioned from the best lands 120 *takas* per *cavar*; middling 90 *takas* and on bad lands 60 *takas* per *cavar*. Produce from the garden lands was usually assessed in cash. Rice and garden lands were charged under Shivaji at full rates only in the 4th year. When the land enjoyed such concession and it was not cultivated the amount due from such a land was

deducted from the total demand of the village. It is motivating to discover, since we have seen in case of Rajasthan since well where dissimilar rates were applicable for well and canal irrigated lands, in the Deccan and the Maratha territories also such differential rates were applicable since the state charged 'extra' for the 'services'. Like Rajasthan, under the Marathas since well sure lands were assessed on the foundation of ploughs possessed. Likewise, sure service providers of the village who received lands were charged at much lower rate i.e. *maund* per *bigha*. Pulses produced from inferior lands were charged through 'appraisal' described *nazar pahani* under Malik Amber.

Shivaji also introduced *batai* resolution in the year 1676 in Paunmaval and subsequently in Rohidkhore. Shivaji charged $\frac{1}{2}$ of the produce on such *batai* lands since state's share. Since a result there occurred sharp rise in the prices of foodgrains in the area on explanation of the scarcity of granules in the market. In the Maratha territory, the village *patil* was responsible for revenue collection and *kulkarni* was the village accountant. Their counterparts at *pargana* were *deshmukhs* and *desais*. Shivaji attempted to set up direct get in touch with the peasants for that he appointed distinct administrators who were to visit each village.

South India

Land tax in south India was also, since was the case in the north, a tax on yields/crops and not on land. The village was divided into arable lands and pastures. The arable lands in turn were further divided into wet lands and arid lands. The former were used for rice and sugarcane farming and garden crops, while the latter depended entirely on rainfall. For assessment, the nature of village and land tenures, local site of the land, crops grown, and soil patterns were taken into consideration. Even differentiation was done on the foundation of a scrupulous crop grown on arid land or wet lands. And explanation was taken of first whether a village was *devadana*; *brahmadeya*; *dalavay agrahara* or else a *karagrama*. Tax also varied depending on the sowing capability of a 'element' of land i.e. in Telegu districts land required to sow a *tum* of seeds was assessed at 8 *varahas*. Land tax was also assessed since per number of ploughs. Land was surveyed and considered. It seems that throughout Krishnadevaraya's reign two assessments old and new were prevalent. Though, no average measuring rod could be used. Even in one single village dissimilar rods could be establish in exploit. It definitely created troubles in imposing any 'uniform' rate of assessment.

The incidence of revenue demand varied from $\frac{1}{6}$ th of the produce to $\frac{1}{3}$ and in sure cases $\frac{1}{2}$. An significant characteristic of tax imposition was that the higher classes, temples and Brahmanas were assessed at much lower rate than the ordinary cultivator. The Lord paid $\frac{1}{4}$; the cultivator $\frac{1}{2}$; *sarkar* $\frac{1}{6}$; the temples paid $\frac{1}{30}$, and the Brahmanas $\frac{1}{20}$ of the gross produce. Newly shaped villages through forest clearings assessed at differential rates. Though, no uniformity was followed in

such cases and it varied from area to area. Revenue demand on *niramba* lands was usually fixed in type. Peasants could pay both in cash since well since type. Though, revenue demand on *kadaramba* and garden lands were usually imposed in cash. For revenue collection dissimilar ways were adopted:

- The state used to appoint its own machinery to collect the revenue.
- The state instead of dealing individually used to trade with a cluster of people or specific bodies/assemblies who were responsible for collecting revenue from cluster of people of a village or villages.

In north India also *chaudhuris* used to collect the revenues from the peasants of a village or a cluster of villages. Though, we do not approach crossways any reference to such assemblies performing the duty of revenue collection in north India. These assemblies usually used to guard the interests of the society. At the helm of affairs was imperial revenue secretariat. It was sub-divided into little sub-parts headed through a superintendent for collecting several taxes. Village revenue records were kept through *karnam*. At *tappa* and district stages these explanations were preserved through *cavadis*.

In the *nadus*, *nattavar* were responsible for the collection of revenue. *Nattavar* maintained distinct tax register and village explanations. Though, in later years slowly their domination declined and they started disintegrating. They were replaced through revenue collectors and revenue farmers.

Relief Events

State's insistence was not to leave the cultivable land fallow. State used to create liberal grants in the shape of *taqavis* to buy seeds, etc. Throughout harvest failures other concessions were also given to peasants. Under the Mughals where crop distribution was in operation state extracted its share at much lower rate, while in *zabti* organization *nabud* did not shape section of assessment however the maximum limit for such concession was 12½ per cent of the total region sown.

The similar was true for Deccan and south India. At the time of natural calamities necessary remissions were provided through the state. Shivaji, in sure cases instructed the revenue officials to remit past arrears to those who deserted the village but were willing to return. Shivaji asked the revenue officials that in no case were peasants to be disturbed or pressed at the time of ploughing and sowing. Sabhasad informs us that peasants were provided with seeds, cattle and money for farming and the money were to be recovered in simple instalments. The newly recovered lands were assessed at concessional rates. At times, peasants were lured to settle in new regions through offering

exemption from home tax since well. Shivaji suggested that if peasant had no money to pay arrears but wished to continue the farming may be exempted from arrears. His implements or bullocks were not to be confiscated to recover the arrears. Nuniz informs us that Krishnadevaraya distributed lands to people which were irrigated through the waters of his new channel at Nagalapur and allowed the lands to be irrigated free for 9 years. Krishnadevaraya also exempted the tenants of newly colonised village Arasarkoyil from all taxes in the first year; though, from the after that year onwards they had to pay sure taxes. Villages that were left untilled on explanation of inundation, etc. for sure eras/years and later again brought under farming were also usually taxed at concessional rates after they were brought under re-farming. Peasants were granted due relief's throughout plunder, draught, etc. Nagappa Nayaka, throughout Sri Ranga's reign remitted taxes to merchants and weavers on explanation of a plunder.

Abwab/Cesses

Besides land tax peasant had to bear many impositions in the shape of *abwab*. These were 'similarity' imposts that peasants were required to pay mainly to meet the cost of revenue assessment, collection and maintenance of revenue officials; sure taxes were occasion specific. The revenues therefore generated were usually not credited to the state's exchequer instead these either went to the coffers of the hereditary officials in lieu of their services or used to meet the cost of revenue collection, or else utilized for specific purposes. The total imposts extracted varied from area to area and the amount ranged flanked by 10 and 25 per cent of the total land revenue extracted. Alauddin Khalji with a stroke of pen abolished all the cesses/*abwab* resulting in a lot of dissatisfaction in the middle of the rural intermediaries – *khots*, *muqqadams*, *chaudhuris*. Ghiyasuddin Tughluq restored all such concessions. Though, once again Muhammad Tughluq reverted back to Alauddin's policy and limited the amount of such exactions not exceeding 4 per cent of the revenue. In western Rajasthan tax levied on peasants to meet several expenses in the procedure of collection of revenue was recognized since *kharach bhog*. It varied since per way of revenue assessment and collection and also from *pargana* to *pargana*. For crop distribution it was around 7 per cent of the land revenue; while for *zabti* it ranged flanked by 8.5 and 5.50 per cent of the revenue. It varied since per the caste and nature of land holdings. Throughout the 17th century in *pargana* Sojhat from *rabi* crop it was imposed on *karsas* at the rate of 20 per cent while *pahis* were to pay 12.5%. At *pargana* Pokharan it was 18.75 per cent on peasants while *Mahajans* and *Banias* were paying 15.62 per cent. Though the Brahmanas were usually exempted from paying it..

In western Rajasthan peasants had to bear the expenditure of *kanwar* and *Hujdar*. Their occupation was to stay a watch on the crop at the time of the harvest and ensure fair division. The cess imposed was described *chaukosi*. *Bhogbhara* was extracted to meet the expenses on the transportation of granules composed since revenue. When grain stalks were still on the threshing floors each peasant had to pay a distinct tax recognized since *tali*. Little charges in the shape of duties were also paid through the peasants like – *bharoti*, *likhawani*, *patha ra*, *dawat puja*, etc. Dues for the maintenance and for the services of the revenue officials were also to be borne through the peasants. There were distinct impositions for supplying woollen clothes, etc. in winter. Such dues paid through peasants were recognized since *dhumalo* in western Rajasthan. Peasants had to pay for incurring the expenditure for buying blankets for horses. *Milani* was to be paid through the village at the time of the appointment of an official. *Kotwali* was charged for the maintenance of the office of *kotwal* in Maharashtra. Likewise, *thanapatti* was to be paid to meet out the expenses of the *thana* in Maharashtra.

In Maharashtra *vethbegari* was a *hak* of the hereditary officials. Both skilled and unskilled labour had to give their services for sure days free to the hereditary officials. *Pharmais* was also same to *vethbegari* in Maharashtra. Sign of prevalence of forced labour is also visible throughout the Vijayanagara era. For deepening lakes, digging canals, for constructing temple walls, and even for supplying wood people had to render their services free. In Karnataka those were exempted from it had to pay a tax *kottage* in return. *Deshmukhs* used to extract a licence free from merchants for allowing them to set-up their shops in the weekly market in Maharashtra. Villages had to pay for the visit of the officials on circuit. In Maharashtra it was recognized since *ulphapatti*. *Toranabheti* was almost certainly paid in Maharashtra for decoration throughout royal visits.

State Imposts on Hereditary Officials

Inampatti was to be paid through the revenue free holders to the state in Maharashtra. *Deshmukhs*, *deskulkarni*, *patil* and *kulkarni* were to pay *miraspatti* ‘for creation profits out of their offices’. We do not know the exact rate they had to pay but one of the documents pertaining to Sirval *pargana* in Maharashtra illustrates that in 1674 the total amount composed under *miraspatti* from the *pargana* was 1000 *hons*.

Taxes on Professions and Manufacturers

Distinct taxes were levied on several professions and manufacturing elements. In western Rajasthan each weaver was to pay one man of yarn annually; while cotton carders were taxed since per carding bow. Each cotton carder was to pay 1 rupee annually on their carding bow. In south India it was recognized since pinjani garu. In Maharashtra tax on weavers was recognized since magataka. It was assessed 1/4 taka per loom. In Maharashtra if a shepherd was also a wool-dealer then he had to pay 5 pounds of wool per flock; in case of being a weaver he had to provide 1 blanket per loom. In south India tax imposed on weavers was recognized since maggadere/maggari. Throughout Vijayanagara era Saliya weavers were charged 9 peranams per loom annually. In western Rajasthan leather cleaners were paying 12 *fadiyan* per month; while cobbler had to provide one pair of shoes monthly. In Maharashtra it was recognized since paiposi and the nature of tax was the similar since it was in western Rajasthan. In South India throughout the Vijayanagara era barbers had to pay 1 visa per day for their profession. We also hear a apart tax paid through the washerman in South India. Both the chief barber and chief washerman were charged 4 panams annually. Throughout Sadasiva's reign barbers were exempted from paying all taxes levied on them In western Rajasthan soap makers were to pay half a man of soap monthly. Potters were also charged in case the goods were produced for the market. In south India under the Vijayanagar rulers it has recognized since kumbaraterege/tirigaiyam. The chief potter was charged 5 *panams* annually.

Refined oil producers and sellers in western Rajasthan had to pay a tax described *ghiyani*; while oilpressers were levied 1-1/4 man annually on each press. In Maharashtra it was recognized since telapatti and it was 1/2 seers of oil per oil mill per year; while *ganagari* was paid through oil mongers and *ganagutta* was charged through the Vijayanagara rulers on oil mills. Aleya sunka was charged through the Vijayanagara rulers on sugarcane mills. We also hear *kabbina*, *sunka* imposed on sugar cane. In western Rajasthan wine distillers were paying 12 *fadiyas* per month. *Sarapatti* was levied upon the *sarrafis* in Maharashtra. In south India blacksmiths, carpenters, silversmiths and goldsmiths were to pay 5 *panams* annually in the Vijayanagara era. Iron furnaces were also taxed in south India. It was described *homalagutta* and was imposed proportionately to the quantity of iron produced.

In south India there seems to be clear distinction flanked by the taxes imposed through the state and regional taxes. Taxes imposed through the state could not be remitted through the regional power. Likewise, in the imposition of new taxes or remission of regional taxes state's orders were advisory and not mandatory. However Krishnadevaraya remitted marriage tax but it sustained to be levied throughout Achyuta Raya's reign. Taxes imposed on artisans were also section of regional taxes and were not imposed consistently in all areas/localities. In Kanaganipalli inscription mention

is made of remittance of many taxes on *pancalamvaru* on explanation of which earlier they immigrated to Kundripisime and Pakalasime from the surrounding regions suggest that in the surrounding *sime* either no tax was levied on them or the burden was comparatively less. Likewise, trustees and Alagiya Nayinar temple at Tiruvamattu, south Arcot district farmed out few miscellaneous taxes to regional Kaikkolas; in return they promised to pay 6 *panams* per loom per annum.

Revenue Assignments

Usually speaking throughout the medieval era we discover three kinds of revenue assignments/ lands: *khalisa*, *jagir*, and *inam*.

Crown Land

Khalisa land's revenues were received through the royal treasury. These lands were governed directly through the state. The proportion of *khalisa* lands varied under the Mughals. Under Akbar it constituted $\frac{1}{4}$; while under Jahangir it reduced to 5 per cent of the total revenues. Shahjahan increased it to $\frac{1}{7}$ while under Aurangzeb it shaped $\frac{1}{5}$ of the total revenues. In the Deccan it were recognized since *sarkarchi sheri*, *sherichen shet* or *khalisa jamin*; while in south India since *bhandaravada/pandarvadai*. Noboru Karashima argues that there occurred a transform in its meaning. Throughout the 16th century it did not symbolize the crown land; instead 'basically taxable land since distinguished from non-taxable land held under manya tenure'. The *dannaik* looked after the bhandaravada villages.

Jagirs

Jagirs were revenue assignments given to the nobles in lieu of their services. Under the Delhi Sultans such assignments were recognized since *iqtas*. Later under the Mughals it came to be recognized since *jagir/tuyul*. The holders of *iqtas* were designated since *iqtadar*, *muqti/wali* and those of *jagirs* and *tuyul/jagirdar* and *tuyuldar*. Though, there were sure variations flanked by the two. Firstly, *iqtadars* combined fiscal and administrative charges. But *jagir* assignments hardly coincided with administrative assignments. However *iqtas* were initially regularly transferable, through Firuz Tughluq's reign it became hereditary and permanent. Initially *iqtadar* had to send *fawazil* to the state treasury but since a result of concessions granted through Firuz it got permanently

fixed and the practice of paying back excess amount practically ceased. Firuz even started the practice of paying his troopers not in cash but in the shape of revenue assignments; therefore he brought in hereditary and permanent character. Mainly the Mughal bureaucracy was paid in the shape of *jagirs* and its holder was designated since *jagirdars*. Unlike *iqtas* their administrative and financial assignments were never coterminous. They were regularly transferred. The standard span of a *jagirdar* was generally not more than 3-4 years.

Jagirdari Crisis

Throughout the closing years of Aurangzeb's reign troubles in the proper working of the *jagir* assignments began to emerge. While the land accessible remained limited, the number of *jagirs* allotted swelled. Abul Fazl Mamuri says that 'the world became *jagir* less and there was no *paibaqi* left.' Mamuri attributes it directly to the influx of the Deccani nobility. In one of his letters addressed to Azam Khan, Aurangzeb himself admitted that there was shortage of *pai baqi*. Scarcity of *jagirs* to be assigned to the new recruits necessity has definitely affected the smooth functioning. We do hear of insistence on having a patron and an agent to get the *jagirs* in their favors. Even instances of paying bribes became a general characteristic. The *jagir* crisis definitely created 'ripples, rivalries, and factionalism' in the middle of the ruling elite. Though, we do not hear any example or situation assuming the form of an armed thrash about throughout Aurangzeb's reign.

Mokasa, Jagir and Saranjams

In the Maratha territory *mokasa*, *jagir* and *saranjams* were often used interchangeably. Though, *jagirs* were more permanent in nature than *mokasa*. They were military tenures however theoretically temporary and were transferable and could be confiscated. But in practice they assumed hereditary character. Officials were mainly paid in the shape of *mokasas* or *jagirs* in lieu of their services. It is motivating to discover the attendance of the practice of sub-letting of the *mokasas* a characteristic completely away in north India. *Saranjams* were divided into *jat* and *fauj*. *Jat* denoted personal pay while *fauj* was given for the maintenance of the troops. It is motivating to discover that the revenues assigned to these *mokasadors* only after deducting *sardeshmukhi*, *chauth*, and *batai*. Shivaji discontinued granting *mokasas* or *saranjams*, and instead preferred to pay his officials in cash. Though, soon after Shivaji's death his son Raja Ram revived the practice of granting *mokasas*. There was the tendency on the section of *mokasa* holders to convert their grant since *inam* or *watan* to create it hereditary. A.R. Kulkarni discovers the tendency to convert *mokasas* into hereditary tenures since 'feudal'.

Amaram or Nayankara

In South India such service tenures in lieu of military service were recognized since *amaram* and *nayakankara*. The biggest transformation from Cholas to Vijayanagara rulers was the emergence of regional military chiefs in big numbers. Noboru Karashima calls it a 'turning point' in Vijayanagara rule. The term *amara-nayankara* itself signifies an office possessed through a military chief in command of a body of troops. They served since intermediaries flanked by the *raiya* and the states. Fernao Nuniz mentions the attendance of 200 *nayaks* in the early 16th century and it is estimated that throughout the Vijayanagara era approximately 75 per cent of the land was held in *amaram* tenures. Cynthia Talbot argues that, '*nayankara* right usually pertain to a *sima*, a territorial element encompassing numerous villages, *amara* often seems in relation to a single village.' It was military service tenure held through *amaranayakas/nayaks* at king's pleasure in lieu of or on condition of military service like the Mughal *jagirdar*, but they were much more powerful. Bunton Stein calls them 'territorial magnates in their own right'. Every year they had to send a specific amount of money since 'tribute'. In case of lapse the *amaranayaka* was punished and their *amaragani* was lapsed. It varies from 3.3 per cent to 50 per cent of the total revenue composed. The tenure like Mughal *jagirs* was neither hereditary nor permanent. They were not allowed to keep in their territories for extensive. These *nayaks* used to administer their territories by their mediators described *karyakarta*. Though, for *durga-dannaik* it was not mandatory to attend the court in person. They were entitled to collect *durga-danayi nivartana* in return for the defense provided through them to the inhabitants.

The *nayaka* organization took actual form in the Tamil area throughout late 15th century and it reached its classic shape under Krishnadevaraya. The territories held through these *nayakas* were recognized since *nayakkattanam* in Kannada and *nayankaram* in Telegu. These *nayakas* were usually of Telugu origin. In the Pudukottai area, though, *arasus* were prominent and *nayaka* organization could hardly take roots. These *arasus* wielded fiscal dominations and extracted tax for watchmanship. Though, in the Andhra area Cynthia Talbot traces the attendance of *nayankara* under the Kakatiyas back to the 13th century, however she agrees that their attendance increased manyfold throughout late 15th and early 16th century in this area. *Nayakas* throughout the Vijayanagar era possessed a sure territory since their *nayakkattanam*, a characteristic not to be seen throughout the 14-15th centuries. Noboru Karashima argues that the transform displayed more clearly the feature of 'feudal' lords. Throughout the late Vijayanagara era we do get references to *nayakas* since leaseholders of temple land which they were receiving cultivated through cultivators. Their lease rights

were hereditary and saleable suggesting that *nayaks* appeared in the extensive run since actual owners or lords of the leased lands.

Inam

Inam lands were revenue free assignments made to the pious, needy and the scholars. The names used might modify from area to area but the nature and pattern of sharing was approximately uniform during. In north India *inam* grants were recognized since *madad-i maash/suyurghal*, *aimma*, etc. Throughout Akbar's era these ranged flanked by 2 and 5 per cent in dissimilar areas. *Madad-i maash* holders were exempted from paying land revenue and other taxes. The *inam* tenures in south India were recognized since *manya*. *Inam* lands granted to both organizations since well since individuals. Primarily there were four such kinds of grants - 1) *inam* lands held through Brahmans were recognized since *brahmadeyas/agraharas*; b) lands given to the temples were recognized since *devadana*; c) *mathapuraa* were revenue free lands held through traditional educational organizations or *maths*. *Inam* grants made to the maths were actually given to the chief teacher for the upkeep of the *math*. Though, temple grants were held through a 'trust' who was temple 'managers'. They maintained the temple in the name of the deity to whom actually the grant was made. Contrary to the *madad-i maash* grants of north India *devadana*, *brahmadeya* and *mathpura* villages were governed through the grantees and the state did not interfere in their affairs. There were also *sarvanya* grants where the grantee had no obligations.

Watan and *inam* were used since synonyms in Maharashtra with the variation that these had no obligation attached to it. *Watan* tenures were mainly held through village officials – village headmen, village accountant, *changula*, *shete mahajan*, and the *mahar*, temples, priests, etc. These were hereditary and permanent therefore extensive since they performed the duty but in practice it sustained to be enjoyed through the family in perpetuity therefore extensive since its members performing their duties. It was in information service tenure. Interestingly, *inam* lands were not totally tax free. They had to pay 1/3 or 1/4th of the revenue composed to the state depending on the nature of the *inam* tenure. *Inams* were of two kinds *diwan nisbat inam* and *gao nisbat inam*. The former was granted through the state by a *sanad*; while the latter were made through the village society. It was recognized since *dehang-i-inam* and was granted to village artisans and servants.

Revenue Cultivation

The state or *jagirdar* could assign portions of lands on *ijara* to a *mustajir*. The agreement bond flanked by the two was stamped through the *qazi*. *Ijaradar* was entitled to retain the variation

of the actual revenue composed and the amount agreed upon to pay. Though, throughout the Mughal era instances of granting *khalisa* lands on *ijara* are rare. The practice was always resisted and hardly approved of through the state. In 1676 Aurangzeb forbade giving lands on *ijara* in Gujarat. It was oppressive for the *ijaradars*' efforts were to extract as much money as possible from the peasants. Usually *ijaradar* was a regional person. In Rajasthan granting of *ijara* was a general practice and it became more frequent throughout the 18th century.

With the weakening of the centre particularly after 1719 Mughal *mansabdars* possessing *jagirs* close to Rajput *watan* preferred to transfer their *jagirs* to the Rajput rulers on *ijara*. Rajasthan records illustrate that *jagirdars* and *ijaradars* tried to bargain while fixing the conditions of *patta*. But mainly the trade went in favour *ijaradar*. Even throughout the 18th century from Rajasthan we get a some instances of *ijara istamrari*. After Sawai Jai Singh's death granting of *khalisa* lands in *ijara* became a 'general' characteristic. We also hear even grant of *tankhwah ijaras*. It greatly attracted *sahukars* and *mahajans*. They used to give sureties on behalf of the *ijaradars* in Rajasthan. At times they themselves opted for *ijaras*. The positive face of the practice was it did bring deserted villages and abandoned lands under farming. *Ijara* was a general characteristic in the Deccan and Maharashtra. It was not confined only to cultivation out lands but was also quite widespread in assuming official posts. In south India the state since well since *nayaks* used to let the lands to the contractors. They were to pay in return *gutta*.

State and Taxation

Barani commenting on Alauddin Khalji's revenue policy mentions that the tax was imposed 'consistently' upon *khots* to *balahar* therefore that the 'burden of the strong should not fall upon the weak.' But the extremely information that the demand was imposed on all set the cycle of use. Those who possessed big holdings necessity be under less pressure than those with little holdings. For a cultivator with little holdings, parting with half the produce necessity be detrimental. Commenting on the nature of revenue reforms of Alauddin Khalji Irfan Habib remarks that '...the tax would have remained extremely heavy and regressive. A government levying such a tax could so hardly have protected the 'weak', except for in therefore distant since it tried to exclude or restrict further use through the rural upper strata in order to safeguard its own share.' There seems to be a 'dramatic' augment in the burden of taxation throughout Muhammad Tughluq's reign. Muhammad Tughluq for assessment took into explanation a 'average' yield in lay of 'actuals'; likewise in lay of actual prices he used the officially determined prices which were much higher than the actuals. It necessity have definitely inflated the tax burden resulting in one of the mainly serious agrarian rebellion of the *Doab*

peasantry led through the *khots* and *muqaddams*. Its impact lasted extensive. When Ibn Battuta visited the territory in 1342 approximately Kol he still establish the territory in the hands of 'rural rebels'.

Therefore it is beyond doubt that throughout the Sultanate era land tax was regressive and quite harsh upon the peasants. For the Mughal era our data is comparatively rich and we get finer details since for pattern of revenue extractions are concerned. Revenue demand, since we have seen, ranged from 1/3 to a 1/2 of the produce; state preferred to extract the revenue in cash. In the *zabti* regions the revenue demand itself was fixed in 'cash'. However *jinsi* or *batai* was also the norm 'the incidence per element of region varied just as to crop, and not just as to the mass of the tax payers holdings'. Further, the incidence of demand also varied since per caste and domination and location held through the individuals. The larger right holders *zamindars*, *muqaddams*, *chaudhuris* and therefore also higher caste people such since Rajputs, Brahmans, *Mahajans*, Baniyas were assessed at much less rate than the general *raiya*. Peasants were to pay the highest amount. Those producing cash crops in comparison to food crops felt the burden much less for cash crops fetched high profits. But farming of cash crops was also usually beyond the capability of the general *raiya*s. It involved lot of expenditure in conditions of more ploughing and irrigation, etc. Therefore, general *raiya*s were under pressure all by the medieval era. Besides, the land tax *raiya*s were to pay several other taxes, dues, and cesses. In such cases since well differential rates on the foundation of caste and social hierarchy prevailed. Imposition of *jiziya* was no less regressive upon little peasant.

Therefore, throughout the medieval era *raiya*s were constantly under pressure and taxation was highly regressive. In spite of *abundance* of land peasants were constantly under debt to regional Mahajan and Baniyas. The gap flanked by the higher and lower strata instead of bridging widened. Peasants' circumstances were miserable and they existed their life approximately below the existence stage. Any calamity meant total ruin for them. History of our era is full of references to frequent migrations of peasants at the time of famines, etc. under distress. The use was such that Bernier mentions that:

- These poor people, when incapable of discharging the demands of their rapacious lords, are not only often deprived of the means of existence, but are bereft of their children, who are accepted absent since slaves. Therefore it happens that several of the peasantry, driven to despair through therefore execrable a tyranny, abandon the country and seek a more tolerable mode of subsistence, either in the cities, or camps; since bearers of burdens, carriers of water, or servants to horsemen. Sometimes they fly to the territories of a Raja, because they discover less oppression, and are allowed a greater degree of comfort.

Irfan Habib argues that “in the seventeenth century the belief had become deep rooted that the organization of *jagir* transfers led inexorably to a reckless use of the peasantry. It was a result which the imperial management might check for sometime but could not ultimately prevent.’

Agrarian Crisis

The attendance of inherent contradiction in the working of the *jagir* organization further aggravated the use of the peasants. *Jagirs* were regularly transferred therefore that the *jagirdars* could not develop regional roots. But it also led them to use the peasants since much since they could for they had no extensive term interests there. They showed no ‘compassions’. Bernier mentions that:

- The Timariots, Governors and Revenue-contractors on their section cause in this manner: “Why should the neglected state of this land make uneasiness in our minds? and why should we expend our money and time to render it fruitful? We may be deprived of it in a single moment, and our exertions would benefit neither ourselves nor our children. Let us attract from the soil all the money we can however the peasant should starve or abscond and we should leave it, when commanded to quit, a dreary wilderness.

For Maharashtra A.R. Kulkarni concludes that however ‘burden of taxation fell heavily on the poor ‘we rarely approach crossways people revolting or grumbling against these taxes.’ Though, in Maharashtra since well we do get references to people protesting against illegal exactions. *Inamdar* from *pargana* Poona challenged the levy of *miraspatti*. The picture seems to be no dissimilar in the Deccan and South India. Nuniz laments that the peasants were allowed to retain only 1/10th of the produce and remaining was either taken through the state or the *amaranayakas*. Even if we do not take his report at side value it does suggest the distress on the medieval peasant. Peasants of Sri Musnam village were said to have migrated from their village on explanation of excessive taxation and returned only when in 1513 Krishnadevaraya’s administrator Sinnapa Nayaka fixed favourable rates for them. In one of the *Kaifiyat* of Kavutalam *ryot* deserted the village on explanation of oppression of the state officials.

- Owing to the absence of orderly government the *ryots* of the Kavutala sime. having deserted their native villages, migrated in a body to the Manaveya *sime* on the other face of the Tungabhadra. While Acyuta was ruling at Vijayanagara, his brother-in-law Salakaraju Cikka Tirumala Maharaja, having visited Adavani, gave a fresh *kaul* to all the gaudas of Kavutala, and made concessions to them for reclaiming cultivable land from the jungle which had grown up throughout the era of desertion. Although these concessions were published

through means of a *sasana*, the *gaudas* and *kulkarnis* alone returned, but not the cultivators who had lost all their faith in the government. So, Tirumala Maharaja had to open negotiations afresh. The *ryots* gathered close to Hanuman's shrine at Kavutala, where they came to an agreement with the government. They then returned to their old houses. The conditions of the agreement were recorded on a stone slab which was set up at the lay of meeting.

At times peasants were forced to sell their lands to meet the revenue demand. The heavy burden of taxation pressed the cultivators since well since artisans to an open rebellion in AD 1429 against the landlords and intruding Vijayanagara commanders. The state was forced to grant temporary reliefs:

- We, the people belonging to Valangai 98 and Idangai 98 of Valudilampattuuchavadi, assembled in this temple in full strength and let the following be engraved on the wall of said temple.
- In this *mandalam*, even if the *uchavadi-pradhani*, we shall never submit to such oppression.
- If there seems any single person in the middle of us who helps the intruders, betrays us, violates the grant given through *Chikkarasar*, or destroys the measuring rod, we shall assemble since of today and ask into it.
- In the middle of those who were born in this *mandalam*, no one should write explanations, let others write the explanations or collude with the government administrators and *jivitakkarars*. If there seems one such person, we shall degrade him in the caste hierarchy.

The absence of such 'disagreements' from the later half of the 15 century led Noboru Karashima to conclude that after the decline of the Chola domination there occurred socio-economic changes resulting in open confrontations. Once the domination got consolidated under Vijayanagara rulers no such revolts occurred.

URBAN CENTRES IN MEDIEVAL INDIA

***Qasba*, Municipalities, Ports and Forts**

In contemporary times an urban centre is defined on the foundation of density and mass of population. 1951 census has defined a city possessing a density of 1000 persons per square miles and minimum mass devised was 5000 persons. Fray Sebastian Manrique for Patna and Alexander Hamilton for Surat have estimated the population of both the municipalities at around 200,000.

English factors' estimate for the city of Samana, *suba* Delhi was 11,000 persons. Henri Pirenne has defined a medieval city since possessing a population occupied in 'industry and commerce'; had legal constitution and organization and was an 'administrative' centre with a 'fort'. The Islamic cities are characterised with possessing a *Jama Masjid* and a 'permanent market'. Medieval Indian cities can also be defined in conditions of market centres; centres where resided a sizable population creation a livelihood not off agriculture but off other manners of manufacture. Medieval Persian sources refer to *balda/shahr* and *qasba* to differentiate flanked by a big and a little city. Likewise, large ports were differentiated from the little ones through addressing them *bandar* and *bara* respectively. In south India also such hierarchy of cities is clearly apparent. *Pattinam* were 'emporia' while *valarapuram* were wealthy coastal cities. In flanked by lived *nagarams* which could loosely be equated with *qasbas* of the north and Deccan, nonetheless possessed district characteristics.

Qasbas

Nizamuddin Ahmad in his *Tabaqat i Akbari* has defined *qasba* since an administrative centre, a *pargana* headquarter. Nizamuddin Ahmad clearly differentiates flanked by a *qasba* and a *shahr*. Since per his estimates there lived 3200 *qasbas* and 120 cities in Akbar's empire. If we take Nizamuddin's definition then through 1647 the number of *qasbas* rose to 4350 and later in early 18th century their number increased to 4716. Though, it was not necessary that a *pargana* should have only one *qasba*. In *pargana* Barsana there lived twenty *qasbas* in early 18th century. In western Rajasthan *qasbas* usually bounded through forts or fortresses with city-walls. *Qasbas* in the medieval context were mainly an extension of a village. A big village with a market centre possessed all potentials to turn into a *qasba*. In Barsana villages Harigarh, Kundi, and Kakurmi accounted to be villages in the 17th century elevated to *qasbas* in the early 18th century records. Sometimes, villages got attached to a fort on explanation of the defense they received and urbanized into *qasbas*. But the first category of *qasbas* was more general. In western Rajasthan Daulatganj was recognized since a market village annexing lands from Rojhari in AD 1785. Such a market city when declined shape section of the *qasba* since a village to which it originally belonged. Several *qasbas* also appeared out of market cities. *Qasbas* with suffix *ganj* were mainly 'market' cities where weekly markets and fairs were also held. Such *qasbas*, though, appeared more prominently from mid 18th century onwards in western Rajasthan. B. L. Bhadani and Sato's studies on the development of *qasbas* in western Rajasthan suggest that throughout the 18th century development of market cities from villages, etc. sustained unabated. But throughout the 19th century the pace slowed down.

The significant point here is what creates a city 'exclusive' and 'separate' from a *qasba*. Satish Chandra has analysed that the connotation of a *qasba* varied from era to era and differed from

area to area. Just as to him throughout the Sultanate era a *qasba* was a village with a fort. Through Mughal era it came to be referred to since a village with a market. These centres not only served since market for agricultural produce but were also ‘centres’ of craft manufacture. Though, Sunil Kumar has argued that throughout the 13th century they did not perform the role of ‘market’ centres. Instead they were ‘fortified encampments’ and not always ‘associated’ with a big city. But we do get references to commercial functions of a *qasba*, like Baran, etc. It were at these *qasbas* that agricultural products were disposed of. Sometimes *qasbas* urbanized approximately a *sarai*. Traders and travellers used to travel throughout our era on horseback or carts. The maximum journey they could perform in a day was 10-12 miles. After that they required a resting lay. This led to establishment of *sarais*. Few of these *sarais* later appeared since *qasbas* or little cities. Nobles also contributed their bit. We get numerous references to mandis and orchards recognized through them. In sure cases these mandis urbanized since *qasbas*. Jaisinghpura Jihanabad was initially a *mandi* and in the 18 century Rajasthani records its recorded since a *qasba*.

Nagaram

In south India *nagaram* were the market centres and could be equated with *qasbas* of the north and the Deccan. There was the attendance of at least one *nagaram* in a *nadu*. Coastal cities depended much for its supplies on hinter lands. *Nagarams* were able to link nearby villages. Here nomadic merchants ‘negotiated’ the regional produce for cash or commodities not produced in the vicinity. Here regional merchants almost certainly bought commodities in wholesale from nomadic merchants and then distributed it in retail at regional stage. Interestingly, *nagarams* were at time urbanized through administrative order. In one of the instances *nadu* and *nagaram* met to convert a regional village into a market city. It worked since collecting and redistribution centre and was the chief link flanked by the regional merchants/producers and the nomadic merchants.

Ports and Forts

Port cities were the chief centres of vibrant urban life throughout the medieval era. W.H. Moreland has differentiated Indian seaports from the European ports of the India Ocean. Ports had a peculiar connection with the hinterlands. They depended mainly for their subsistence on hinterlands, they too in turn survived on the prosperity of their feeder city/s. In Maharashtra on explanation of consistent warfare and disturbed circumstances forts engaged unique lay since a) royal centres and posts for defense of urban centres and deal, and b) spaces of sharing of foodgrains in the markets. At Shivaji’s capital fort Raigad there lived a *peth* of Pachad where traders and merchants converged and

provided supplies to the fort. These forts were usually located either on the highway or deal circuits or else close to the cities and ensured defense to the surrounding urban centres resulting in expansion of deal and commerce in the area. Forts like Shivneri, Purandar, Raigad, Panhala served since guarding posts, and offered defense to the city like Pune, Junnar, and Kolhapur. Even forts like Khanderi, Undari, Kulaba provided defense to the port cities. Though, urban complexes on hill forts soon broke down once the Mughals engaged Raigad and focus shifted to the urban centres like Poona, Satara, etc.

Rural—Urban Continuum

Pelsaert mentions that Indian cities were merely an extension of a village. He elaborates that Agra was merely a village in the jurisdiction of Bayana and suddenly grew into a municipality. The cause he attributes to its rise was that emperor Akbar ‘chose it for his residence in the year 1566’. Here my purpose is not to give a critique of Pelsaert’s report for Agra already appeared since capital city under Sikandar Lodi. The significant point, nonetheless, is his observation pertaining to the ‘rural’ foundation of medieval Indian cities. Being predominantly an agrarian economy, rural foundation of cities cannot basically be ignored. Even urban upper strata, on explanation of their land based income, had rural foundation. This rural-urban continuum remained one of the chief characteristics in the development of urban centres throughout the medieval era. It accepted the similar socio-economic ‘unities and attitudes’, what S.C. Misra calls ‘peasant urbanites’. He argues that ‘the attendance of this rural-urban continuum retarded the development and emergence of characteristics/factors that could be designated since ‘purely urban’.

It is usually argued that medieval Indian cities were ‘parasitic’. Cities were mainly depended upon countryside for food supply and raw material. Though, in return Indian villages were hardly getting much. Irfan Habib has argued, ‘...as the village had some claims upon anyone outside its limits, its own inhabitants’ requires had to be met mainly from within itself, and it had so to function since a self-enough element.’ Though, Chetan Singh has accentuated the subsistence of a ‘symbiotic’ relation flanked by the city and the country and ‘city country sphere’ was not an inaccessibled self-enough entity. He argues that in Punjab cities were mainly urbanized in the agriculturally urbanized zones. The decline in demand of raw material equally affected the cultivators. Henri Pirenne has accentuated that while cities were manufacture centres, villages were mere suppliers of raw materials and food stuffs. His model presents cities since mere ‘exploiters.’ Though, medieval Indian villages were also manufacturing centres. Textiles and indigo were produced at villages.

Development of Cities

The beginning of our era saw rapid development of urban centres in north India. The procedure got accelerated later in the 16-17th centuries. It is motivating to discover that the development of urbanisation was much faster under the Mughals than in British India. Irfan Habib and Shireen Moosvi have calculated the population development in excess of 15 per cent in Mughal India since against 13 per cent development rate in England approximately 1600. Muhammad Habib in his introduction to Elliot and Dowson's *History of India since Told through its Own Historians*, Vol. II has put forward the thesis that Turkish conquest led to 'urban revolution' in north India. He argues that prior to them the higher classes appropriated the municipalities and cities exclusively to themselves while the workers existed in unprotected villages and in settlements outside the municipality walls. With Turks such barriers were broken. 'When the Turks entered the municipalities, the Hindu low-caste workers entered beside with them. And they came to keep... The municipalities under the new regime were developing into thriving centres of industry and commerce. Therefore, just as to Muhammad Habib this 'revolution' became possible:

- Because the new ruling elite was urban/city based.
- The Turks succeeded in emancipating the working class.

This method they brought a sea transform in the overall development and pattern of city life. Though, Irfan Habib has expressed his doubts whether at all the municipality workers enjoyed greater degree of emancipation under the Turks.

On the foundation of 'dominant development factor' one can identify medieval municipalities since religious, economic and political. The development of political municipalities mainly depended upon the status of the political domination from which it derived its strength. Religious and economic municipalities were comparatively more 'close' and stable. V.D. Divekar calls religious municipalities 'eternal' for one rarely discovers sudden rise or decline of such municipalities. Municipalities that derived their strength from deal and manufactures mainly depended on their 'hinterlands' or 'deal circuits', or 'ports'. Any transform in their configuration definitely affected the development of that scrupulous municipality but, as they were mainly self-sustaining survived much longer on explanation of their inner strength.

The mainly fragile were the municipalities deriving their strength from political patronage. No sooner was such patronage withdrawn, the decline was 'inevitable'. Population of such political municipalities mainly consisted of ruling elites, and officers. These were 'consuming classes.' V.D. Divekar mentions that political municipalities were organised in an 'inverted pyramid' where

manufacturing classes were at the bottom. He argues that, 'the political municipality always faced the danger of being reduced to a little city or village since a result of few untoward political upheaval... The death of a political municipality was much more sudden since compared to a extremely slow passing absent of an industrial or commercial municipality.' The basis of the municipality of Vijayanagara was laid on a desolate tract. It saw unprecedented development and reached its zenith in the 16th century under the royal patronage. Though, soon after the defeat of Vijayanagar ruler in the battle of Talikota, it was all in ruins. Italian traveller Caesaro Federici, who visited the municipality immediately after refers to the desolate state of Vijayanagara with homes uninhabited through people and mainly 'the municipality was the abode of beasts and tigers.' Likewise, Bijapur, the Adil Shahi capital, appeared on the debris of Vijayanagara, reduced to a little city soon after the rise of Maratha domination in the area. Pune achieved the status of a vibrant municipality under the Marathas from a little village once the Marathas made it their chief centre of domination. It was in relation to the to side the similar fate had the British not made it their second capital of the Bombay presidency.

K.N. Chaudhuri has divided the Mughal municipalities on the foundation of their functional hierarchy – *primate municipalities* – these convinced the entire empire; area municipalities – nodal to a area; and provincial and district cities – their region of power and operations being the respective provinces and districts. He puts all the capital cities – Agra, Delhi, Lahore, Patna, Burhanpur and Ahmedabad in the category of *primate* municipalities. For him the 'economic role of these categories may not necessarily differ.' He elaborates that, 'At the height of the Mughal imperial domination the largest function of these *primate* cites was political; their strategic or military significance was only secondary. But there was an additional string of garrison cities, such since Gwalior, Allahabad, Chunar, Aurangabad, and Junnar which provided the military sinews of the empire... satellite primate municipalities functioned since central spaces exchanging political information.'

Fortunes of the municipality of Sirhind depict the development and decline of a strategic city. Sirhind rose to prominence with the decline of Pakpattan-Fazilka-Samana circuit. Once the Delhi-Lahore circuit gained prominence Sirhind engaged an significant lay and no sooner achieved the status of second main city after Lahore in Punjab. In Muhammad Tughluq and Firuz Tughluq's scheme of defence Sirhind engaged great strategic importance. Firuz Tughluq separated Sirhind from the shiq of Samana and got the fort strengthened and repaired. He also dug-up a canal and brought that upto Sirhind. Sirhind was also strategically placed for Muhammad Tughluq's nothern campaigns. Its proximity to the hills also placed it strategically at key point for Chinese and Tibetan goods. Though, soon after the decline of the Mughal domination Sirhind also declined particularly with the rise of Sikh domination in the area.

Urbanisation: Few Views

R. Redfield and M.B. Singer uphold that usually speaking Indian municipalities appeared out of political, administrative, and cultural concerns and their commercial and industrial functions were 'insignificant'. Hamida Khatoon Naqvi has highlighted the importance of political continuity in the development of medieval Indian cities. She argues that, 'The highly centralized Indian states with foundation at Lahore, Delhi or Agra worked to foster viability and endurance in urban concentrations. The rise and fall of medieval Indian cities corresponded mainly to the vigor or weakness of the central political domination.' Lahore enjoyed significant lay since early since Ghaznavid era. It had a fort. Sultan used to conduct his durbar here. Though, in Friuz Tughluq's scheme Lahore was practically out; since a result the municipality was in ruins. Throughout his era Hissar Firuza, Samana, Ludhiana, Bahlolpur, Sultanpur and Srihind flourished and patronised through him. But under the Mughals Lahore again revived its past glory. Lahore approximately became the second capital of the Mughals. Hamida Khatoon Naqvi emphasises that on explanation of peace and tranquility that was achieved under the Mughals, Lahore and other cities of Punjab received unprecedented development. K.N. Chaudhuri has focused upon the 'complementarily of economic modality and political attributes.' He describes commercial cities of Mughal era since a case of 'flag following the deal.' For him 'political skills were essential to preserve their economic interests.'

Satish Chandra, though, argues that the political integration resulting in unprecedented development of cities is actually in excess of accentuated. He questions, if that was therefore then why after the Tughluq era following the disintegration of the political domination, did not result in the decline of cities? Satish Chandra, instead, links the development of cities to agricultural expansion. He argues, taking the case of Firuz Shah Tughluq's reign when the Sultanate shrank to half its mass, that the era is marked through emergence of several new cities. Since a result of Muhammad Tughluq's network of canals and impacts of new technology and expansion of horticulture all this led to the development of agrarian sector. He has accentuated that we cannot basically dismiss the Afghans since 'merely warriors'. Instead, unlike the Turks, Afghans settled in the countryside suggest that they necessity have had something more to do with agriculture. He applies the similar argument to the 18th century since well. He argues that proof pertaining to the decline of municipalities throughout the 18th century comes mainly from literary customs. There is no doubt that Delhi faced a decline but only since a chief administrative centre. In 1772 Delhi is mentioned through Shah Nawaz Khan since a flourishing municipality filled with all sorts of crafts.

Dargah Quli Khan in his *Muraqqa-i Delhi* speaks in relation to the grandeur of markets of Shahjahanabad municipality. Chetan Singh has also accentuated the development of urban centres, particularly manufacturing centres in well urbanized agricultural zones absent from the largest deal circuits.

Irfan Habib though, relates 'urban decline' to 'agrarian crisis'. Mughal municipalities declined in the 18th century because the subsistence of cities and municipalities depended on agricultural surplus. K.N. Chaudhuri also accepts that the 'economic subsistence depended on the skill of the countryside to produce a surplus and the method in which the latter was distributed'. Henri Pirenne has connected development of medieval cities to extensive aloofness deal. In the Indian context R.S. Sharma in his well researched monograph *Indian Feudalism* also argues that the development and decline of extensive aloofness deal resulted in the development and decline of the cities throughout early medieval era, although other historians have expressed doubts in relation to the thesis of urban decline.

I.P. Gupta while denying any significant role of administrative and military factors in the development of urbanisation and urban development argues that 'administrative and military power in all the biggest municipalities and cities remained subdued to economic behaviors.' His estimates reveal that roughly 80-90 per cent of the behaviors in the big urban centres in Gujrat were 'economic'. There is no example where a 'fort' assumed the status of an 'urban centre.' Out of the 33 forts accounted in Gujarat in the 17th century only 9 were situated at the large and little cities. Even 'religious' and 'educational' centres were predominantly manufacturing centres. His revise illustrates that Gujarat cities were mainly performing the role of either manufacturing centres, or collection centres, and sharing centres, or else were port cities. Ahmedabad, Surat, Broach, Cambay performed such multifarious behaviors. *Qasbas* were mainly the collecting centres and served since hinterland cities for onward transfer, and sharing. Mostly the cities were situated at 'nodal' points of communication, or on significant land circuits. Hardly cities appeared on explanation of being administrative centre. Instead, it assumed the lay of an administrative centre on explanation of its being significant since 'commercial' centre. He points out that the rate of development was faster at manufacturing centres and superior cities; smaller cities urbanized at much slow a pace. I.P. Gupta elaborates that the procedure of urbanisation in Gujarat was at a much faster pace than other sections of the country throughout the 17th century.

Chetan Singh has also accentuated the economic foundation of the urban centres. However few cities derived their strength since significant administrative centres their importance since thriving manufacturing centre since well since market and transit points cannot be ignored. He argues that however Lahore was an significant administrative city, it derived its strength 'since a

centre of considerable manufacturing and commercial action'. It was located on the biggest land circuit providing connectivity crossways India to Transitional East and Iran. Its economy was 'not entirely dependent upon the Mughal ruling class or upon imperial patronage. He highlights the decentralizing tendency of the urban centres in the Punjab area that, 'No single city was economically significant sufficient to manage the urban artisanal manufacture of the area.' Such development just as to him, was instrumental in 'the incorporation of hitherto peripheral regions into the urban network.' However K.N. Chaudhuri has accentuated the largest function of the 'primate' municipalities was political, to assume the status of 'primate' municipality the components he speaks of are mainly economic – favourable geographical site; convergence of extensive aloofness deal circuits, favorite markets, etc.

Nihar Ranjan Ray and Arun Das Gupta have connected the rise of Islam to urbanisation in Bengal. Though, Aniruddha Ray argues that, 'the thesis of Islamisation and revival of Bengal's overseas deal is hard to accept, for Bhakhtiyar Khalji's attack on Bengal occurred in early 13th century. But through 13th century already one discovers the attendance of several flourishing cities like Harikela, Nadia, Vikrampur, Bakla, Lakshmanavati. Aniruddha Ray attributes two biggest factors to the rise of urban centres throughout the 12-17th centuries in Bengal: a) Decline of central domination throughout the 15th century saw the rise of several semi-autonomous principalities/kingdoms that led to rise of a number of new urban centres. Champaner, Sonargaon, Pandua, Lakhnauti, Chittagong, etc. b) Charges in the riverine courses also resulted in development and decline of cities. Development of Pandua is attributed to transform in the course of Mahananda that began to flow secure through. Likewise, Lakhnauti declined because river Ganga moved much towards west, Gaur also faced the similar fate once Bhagirathi moved further westwards.

Morphology of a Medieval City

K.M. Ashraf has stressed upon the changing morphology of cities throughout the Turkish era. Just as to him the character of cities slowly started changing. To the old, pre-Turkish cities new characteristics were added – mosques, tombs, domes, etc. K.N. Chaudhuri has also accentuated that 'the architectural expression of Islam in India were typically centred on the mosque adjoining markets, the great public square and the palace.' He argues that, Islamic character of the North Indian cities cannot be questioned. In the south and in sections of western India the Hindu power and ideas were, of course, still strong.' European travellers regularly refer to lofty gates, walls, mosques, gardens and hammams since aspects of a 'Moorish' city. Another characteristic of city-structure behaviors in our era was the emergence of intended and walled municipalities. Firuz Shah Tughluq

was the first in the middle of the Delhi Sultans who undertook huge city-structure projects. He laid the foundations of since several since 17 municipalities and forts. However Delhi all by its history witnessed construction of several 'capitals' within its territorial limits, prior to Firuz, who laid the basis of Firuz Shah Kotla, Siri, Kilughari and Tughluqabad, were built. The successive capitals laid down in and approximately Delhi in the Mughal era were – Dinpanah, Purana Qila and finally the huge aggrandizement of Shahjahan – the Shahajahanabad. The general characteristics of all these capital municipalities were: a) while choosing the location, attempts was made to ensure two biggest characteristics – defence and water supply. Even since early since Firuz Shah's reign, while erecting his new hunting resort at Hissar Firuza, Firuz ensured water supply and brought the canal water down to Hissar Firuza from river Yamuna by his well-known western Yamuna canal. One of the biggest causes for abandoning Ghiyasuddin Tughluq's Tughluqabad to his new abode seems to be scarcity of water in that area. Shahjahan, while structure Shahjahanabad, also ensured proper supply of water. Muhammad Salih Kambo in his *Amal-i Salih* records Shahjahan's largest cause behind shifting his capital from Fatehpur Sikri/ Agra to Delhi was the hot weather and the scarcity of water. Shahjahan not only re-excavated Firuz Shah's western Yamuna canal but also got it extended another 30 *kurohs* and laid out beautiful channels running by the transitional of the Chandni Chowk leading inside the fort. b) All the officially commenced municipalities/capitals were intended and provision for their proper garrisoning were ensured. They possessed wide streets, *bazaars*/shopping centres, etc. within the fort intricate. Separately from imperial establishment inside the fort, a city consisted of homes of nobles, *bazaars*, *mandis*, merchant settlements, homes of artisans, labourers, mosques, temples, *sarais*, *dharamshalas*, crematoriums, gardens, tanks, wells, slaughter homes, etc. Usually, gardens, tanks, crematoriums, slaughter homes, etc. were not located at the centre of the city.

A city was divided into a number of *kuchas* and *mohallas*. In each such *mohalla* people of dissimilar crafts, profession and caste used to reside. Such division never seem to be on the foundation of religious affinity. Similarly, each street was also well-known for the sale of specific crafts/commodities. *Chawri bazaar* in Delhi still possesses shops of copper and brass utensils and *paiwalan* region close to Jami mosque is well-known for sale of fire works. These *kuchas* were either named after a prominent personality or a craft, i.e., *gandhi gali* or *kucha-i-Bulaqi Begum*, *kucha Batasha wala*. *Mohallas* also named after a prominent individual or a craft – *mohalla churigaran*, *mohalla dhobiwala*. Few were even named after a prominent symbol of the region, e.g., *chah-i rahat*.

Big markets were recognized since *chowk*; while smaller markets were recognized since *bazaar*, e.g., *jauhari bazaar*, etc. Likewise, *bazaars* with retail and wholesale commodities were recognized since *ganj*. *Dakakin* was the word used for shops, e.g., *dakakin bisatiyan*. Likewise, *mandi* used to denote wholesale market, e.g., *Sabzimandi*, *mandi gulfarosh*. *Katras* were wholesale

markets or lay used for godowns/stocks. Municipalities also had *chhattas*. Literally, it means sheltered lane but it used to denote a lay where artisans of specific crafts used to reside – *chhatta momgaran*; *chhatta maimaran*, etc. Usually, almost certainly for security thoughts each *mohalla*, *katra* or *bazaar* used to have one entrance only. In south India each *nagaram* consisted of *angadi* where transactions were mannered on regular foundation while *kadai* was a lay where people from outside the ‘society’ brought goods for sale. At these market centres periodic fairs were organised. A sort of hierarchy seems to have prevailed in conditions of home complexes. A *haveli* was a home intricate with an entrance, courtyard, livelihood quarters, *bala* and *jilau khana*, offices. Few *havelis* even had *burj*. Homes of lower echelons were basically termed since *makan*. *Kothis* used to denote factories of European companies and at times upper class residences. We hardly discover prevalence of usage like *banglas* and *manazil* in our era. It got popularized throughout British era.

There hardly lived the concept of private gardens, however gardens since pleasure resorts were built through the royalty and the elites. In Delhi itself we have many gardens built through the aristocracy. Mainly the homes of the general populace at Patna, Delhi, Burhanpur called through foreign travellers consisted of thatch or bamboo. Dacca was filled with unassuming homes of carpenters and boat builders. Though, Benaras was praised for its big and well built homes of bricks and stones. K.N. Chaudhuri highlights the ‘floating’ population since a significant characteristic of Mughal cities. Since large cities since Surat possessed big floating population. Surat was filled with innumerable people at sure eras particularly at the time of ships ready to depart. Babur has also highlighted this extremely nature of Indian cities:

- In Hindustan hamlets and villages ... are depopulated and set-up in a moment! If the people of a big city, one inhabited for years still, flee from it, they do it in such a method that not a sign or trace of them remnants in a day or a day and a half. On the other hand, if they fix their eyes on a lay in which to settle ... they require not build homes or set-up walls. Khas grass abounds, wood is unlimited, huts are made and straight absent there is a village or a city.

A significant aspect related to the morphology of city is the sharing pattern of urban dwellers. Mainly a city consisted of ruling class/officers, manufacturers and artisans, traders, educationists, etc. At the urban centres transitional classes constituted considerable in mass and practically shaped the backbone of the municipality life. Hamida Khatoon Naqvi argues that, “since extensive since the urban transitional class pursued its several engagements and callings in peace and security, the cities flourished. But bereft of domination and power, this urban transitional class sought refuge in the safer rural precincts if the signs of deterioration in law and order situation surfaced in the cities.”. G.D. Sharma’s revise suggests that for western Rajasthan separately from ruling elite mainly Rajputs

and Muslims, *Mahajans*, *Banias*, and *Kayasthas* also shaped significant part of urban morphology. Though, artisans hardly enjoyed higher status and mainly clubbed in the category of lower castes. In the middle of these artisans *julahas* and *bunkars* weavers constituted a sizable chunk. After that in strength were shoe makers. Besides them, there were *sunars*, *lohars*, *telis*, etc. This pattern suggests the rising concentration of textile manufacture in the urban centres. Interestingly, G.D. Sharma's revise illustrates that outsiders, even the *sodagars* and *Multanis*, who were significant merchant clusters were not given higher lay in the urban morphology.

Bernier has called Mughal municipalities since 'camp municipalities', a 'military encampment'. Following Bernier Stephen P. Blake has also characterised Shahjahanabad since a 'great camp' whose population fluctuated. When the king and his nobles were in residence the population suddenly swelled. When the camp was not in city it gave a desolate seem. Thevenot also pointed out that throughout the emperor's keep there was 'an extraordinary crowd in the streets' otherwise it seems 'to be a desert'. To believe Delhi, or same other capital cities mere military camps is possibly an exaggeration. No doubt Delhi assumed importance after becoming the imperial capital after the construction of the Shahjahanabad fort. Though, even prior to it Delhi possessed sizeable merchant class. Bernier himself has given a vivid account of the merchants and of their dwelling homes. Rich merchants existed mixed with the *mansabdars*, petty *omrahs*, offices of justice, etc. in the streets. The ordinary merchants had their dwellings in excess of their warehouse, at the back of the arcades. Commenting on the morphology of Mughal capital city Shahjahanabad, Stephen P. Blake has analysed it in conditions of 'patrimonial-bureaucratic' state/capital. For him, 'the sovereign municipality was an enormously extended patriarchal household'; the emperor ritually dominated the community. Blake has compared it since a local variant of 'early contemporary patrimonial-bureaucratic capitals'.

Patterns of Governance

The governance pattern of medieval cities can be studied at two stages. One, governed by self administering organizations; it mainly determined and regulated through customs and social ethos; while the other one was municipality administered through state-determined rules and state-appointed officials. It had at the back of it 'state' domination to support them. Max Weber differentiates flanked by the 'Occidental' and 'Oriental' municipalities on the foundation that 'civic' society was present only in the 'Occident'. In 'Oriental' municipalities artisans lacked 'corporate' status and mainly relied on state patronage. Therefore they possessed no distinct 'identity' bereft of state domination. It is true that medieval Indian cities hardly possessed municipal organizations

wielding legal/ political domination. Nonetheless, there operated few organization of regional governance recognized through custom that was equally honored through the state.

There did exist few autonomous urban organizations. City consisted of many *mohallas*. These *mohallas* or *pols* usually shaped the residence of a scrupulous 'caste' or profession. These *mohallas* or *pols* served since 'independent' bodies. *Mirat-i Ahmadi* refers to superintendents of each *mohallas*. These references clearly point to the attendance of few sort of regional elements. State management was to mediate and job in coordination with these regional bodies. While discussing the morphology of a medieval city, how each *mohalla* was provided with presently one entrance to shield against aggression. Secure watch was kept on any outsider entering in. Besides, these *pol/mohalla* organisations, there also lived similarity organisations of several crafts and artisans. Abul Fazl in his *Ain-i kotwal* refers to guilds and guild masters. Likewise, there was attendance of *mahajans* in each urban centre. These *mahajans* were concerned with 'occupational' regulations. It was a body of a cluster of elders of the society headed through a *sheth/seth*. S.C. Misra points out that, 'He maintained the traditional craft ethos within the cluster, regulated deal dealings, laid down the price row, in sum secured internal harmony, outlawed unfair internal competition, and usually made a fair sharing of job'. The *seth* was the 'real' mediator and spokesperson of the society. Even the 'state' machinery made exploit of them when the require arose. These craft specific *mahajans/seths* confederated into a superior body headed through *nagarseth/ nagarsheth*. He was the 'titular' head of all the crafts and artisanal clusters in the city. He used to negotiate on their behalf in times of require. In one such example the *Nagarsheth* of Ahmedabad saved the city from Maratha attack through paying 'ransom'. In return the *mahajans* of the cities agreed to provide a section of city duties in perpetuity. It also suggests that his location was almost certainly hereditary. However *mahajans* were free since distant since their internal matters were concerned, in case of disputes in the middle of *mahajans*, *nagarseth/nagarsheth* mediated. This mediation, since S.C. Misra puts, 'necessarily introduced a significant unit of indirectness in management.' Even the state valued their domination and location. In 1723, when merchants of Surat submitted their petition to the *mutasaddi* of Surat, Momin Khan acknowledged the power and importance of the *mahajans* and merchant bodies:

- 'In future all matters relating to commerce be settled with the assistance of the merchants, and all cases regarding the *mahajans* in consultation with the *mahajans*. Let imprisonment and execution not take lay.'

Kotwal was the overall incharge of city management in north India. He was appointed through the emperor at the recommendation of *mir-i atish*. He was responsible for the maintenance

of law and order and safety of the city population. To prevent theft, murder, etc. was the responsibility of the *kotwal*. He also managed and controlled the markets. His office in the municipality was recognized since *chabutara-i kotwali*. At each municipality gate guards were posted, headed through a *darogha*, who shut the municipality gates after sunset and no one was allowed to leave or enter the municipality without the written permission of these guards. *Daroghas* were also appointed to seem after and supervise public works, purchases, stores, *bazaars*, etc. There was a distinct *darogha* of *dak*.

Aurangzeb, in 1659, created the office of *muhtasib* who was incharge of public morals. He was to enforce average weights and events, etc. All by the empire, and therefore also in the municipalities intelligence administrators – *waqai navis*, *sawanih nigar*, *khufia navis* and *harkaras* were posted. They were to send secret statements of the working of the region under their jurisdiction directly to the emperor. *Qazi* was the incharge of overall judicial matters. Fiscal management of a city was looked after through *amin*, *karori*, *qanungo*, *chaudhuri*, *mushrif*, *tahvildar*, etc. Distinct *mutasaddis* were appointed for market management. *Nigahban* and *piyadah* were also appointed at each market. Port management differed from other cities of the empire. Ports were placed under a *mutasaddi*. Momin Khan, *mutasaddi* of Surat's report in 1723 addressed to the merchants of Surat throws light on *kotwal*'s location vis-à-vis the *mutasaddi* of the port.

Merchants complained to the *mutasaddi* of Surat that 'Under the former governors the *kotwal* was appointed through the *mutasaddi*. At present Bundhi Khan has been appointed through the court. He injures people. It is prayed that he should not have any power in judicial matters.' The *mutasaddi* wrote: "The *kotwal* is *kotwal* of his own home only. What business has he with the municipality? If he injures anyone, he shall be reprimanded." In common administrators of a normal Mughal city sustained to be the similar at ports performing same functions. Though, in port cities there also lived sure departments that did not figure in other municipalities:

- *Faiza*: It looked after the seaborne deal. His duty was to check goods coming in and collect traditions. The custom-home was recognized since *khushk-i mandi*, etc.
- *Khushk-i langar jahajat*: It was counterpart of *faiza* on land. It dealt with inland deal.
- *Jihat Godi* or *Marammat-i sair*: It dealt with ship repairing and ship-structure.
- *Mahal Jahazat*: It looked after the movement of outgoing and incoming ships, anchor, composed *haq-i langar* and looked after insurance of goods.

Port city in Maharashtra was recognized since *mire*. *Ghat* regions in Maratha territories were placed under *ghatpandey* who was incharge of the maintenance and upkeep of the region. He provided regular patrol for which he appointed guards described *gujaras*. *Ghatpandey* was helped in

the octroi collection through *patki*, *dangi*, *pansare*, *modvi* and *metkari*. *Ghatpandey*'s location was hereditary. In medieval Maharashtra, the person incharge of the growth and maintenance of *peth* was described *sete*. In lieu of his services he received revenue free grants. *Sete* was to collect the custom dues and assess impositions on the shopkeepers. He also served since *kotwal* of the market. In that capability he exercised his police dominations since well. He assisted *ghatpandey* in the collection of octroi.

In south India the representatives of *nagaram* assembly were recognized since *nagarankalilar*. It consisted of regional merchants. Their occupation was to administer the regional market. They provided police defense and were responsible for the cleaning of streets, garbage collection, etc. For these services a fee was composed through *nagaram* from merchants. *Angadikuli*, *angadipattam*, *taragu* were fees charged from the shops and *karai-irai*, *kadaipattam* was the fees charged from *bazaars*. It had full-fledged machinery of sweepers, policemen, market officials, accountants, etc. *Nagaram* possessed the right to authorize a wholesale dealer for a specified commodity.

INLAND AND MARITIME TRADE

Intra-Local Deal

A big volume of internal deal in items such since foodgrains, other agricultural produce such since cotton, other raw materials and finished manufactured goods crossways the length and breadth of the country contributed a good trade to the development of productivity in both the agrarian and the non-agrarian sectors. The attainment of an extra-ordinarily high degree of market dependence is suggested through bits of proof like the poor peasants of the rice-rising riverine systems of southeastern India consuming not the expensive paddy crops which they produced, but millets and arid granules from the interior. Foodgrains, raw materials and finished products traveled extensive distances for eventual consumption in manufacture centres and markets providing the highest return. Bengal was recognized to be the 'granary' of the subcontinent and provided big quantities of items such since rice, sugar and oil to several sections of the country besides neighbouring countries such since Sri Lanka and the Maldiv Islands. The cotton textile industry of the Coromandel coast depended for a big section of its raw material on Maharashtra and Berar. In Bengal, while the finest Dhaka muslins were woven from high-grade cotton grown in the vicinity of Dhaka itself, the bulk of the cotton used in the long cotton textile industry in the province was imported from regions such since Gujarat. The significant silk textile industry in Gujarat, in return, obtained the bulk of its supply of high-grade raw silk from Bengal.

The big volume of deal flanked by the east and the west coasts was done via the heartland of the Mughal empire. Luxury silks and muslins were a staple thing in the cargo sent from Bengal to Agra for export through the Mughal aristocracy. Few of these goods were re-exported from Delhi and Agra to the west coast beside with indigo from Bayana and clothes produced in Hindustan. They were exchanged, in the middle of other goods, for Gujarati silk textiles and luxury items from the Transitional East. The trading societies in north India incorporated Punjabi Khatri and the Rajasthani, but possibly the mainly dominant cluster was that of the Gujarati merchants who controlled the great cross-country deal circuit from Surat to Murshidabad. Indeed, on the foundation of their excellent market information and big capital possessions, several of these Gujarati merchants had settled down in several sections of the country including Bengal, many branches of whose deal, both through land and water, they eventually came to dominate.

There were also significant overland trading links with Persia and Central Asia via the northwest. The circuit to Persia stretched from Agra to Lahore to Qandahar on to Isfahan – the central market of Persia. The volume and value of the deal on this circuit looks to have been reasonably big with 20,000-21,000 camel loads travelling each year from Lahore to Isfahan in the early section of the seventeenth century with all types of relatively high-value goods manufactured or grown in the north Indian plains. Ordinarily, overland transportation, particularly when it also involves a sure amount of defense cost payable to the tribes by whose jurisdictions the caravans would have to pass, is more expensive than transportation through sea. But in the case of the Indo-Persian deal, the Dutch East India Company factors at Agra maintained that the land circuit flanked by Agra and Isfahan via Lahore and Qandahar cost less per element of goods transported than the land-cum-sea circuit which would involve the transportation of the goods from Agra to Surat through land, on to Bandar Abbas through sea and finally from Bandar Abbas to Isfahan through land.

The circuit connecting the Mughal heartland with central Asia also started at Agra and sustained on to Lahore and Peshawar reaching Kabul via the Khyber Pass. It then sustained on to a chain of Indian trading settlements which stretched distant up into central Asia to Astrakhan and Lake Balkh. This was a significant deal which took Indian spices, textiles and other goods up to Bokhara and beyond in search of gold and silver, horses, silks and Chinese porcelain. The level of this traffic may be judged through the effect of a single accidental fire in Peshawar fort in 1586. The disaster destroyed 1,000 camel loads of goods belonging to the merchants who had covered there when the circuit was temporarily obstructed. Since extensive since the chiefs of the Afghan and other tribes were given their usual cut, the caravan deal on this circuit ordinarily moved quite smoothly.

Seaborne and Coastal Deal

In addition to a fairly impressive amount of internal deal and a sure amount of external deal through land, the medieval Indian economy was characterized through a big level coastal and high seas deal accepted on from its long coast row. On the eve of the arrival of the Europeans into the Asian Seas at the beginning of the sixteenth century, maritime deal from India was an significant constituent of the Indian Ocean deal, alternatively referred to since Asian deal. Traditionally, the great arc of Asian deal incorporated the Persian Gulf and the Red Sea in the northwest and Japan in the northeast. The principal natural divisions of this vast region were the Arabian Sea, the Bay of Bengal and the South China Sea. Within each of these zones, there were significant blocks of ports crossways which a big amount of deal had traditionally been accepted on. The western or the Arabian Sea zone incorporated ports in the Persian Gulf, the Red Sea, those on the East African coast and on the west coast of India. The Bay of Bengal network incorporated ports in Sri Lanka, the Coromandel coast, Bengal, Burma, Thailand, Malaya and Acheh in Sumatra. Ports such since Canton and Zaiton in the South China Sea had long contacts both with the Indonesian ports since well since with ports in the straits of Malacca.

India played a central role in this building of Asian deal. In section, this indeed was a function of the midway site of the subcontinent flanked by west Asia on the one hand and southeast and east Asia on the other. But possibly even more significant was the subcontinent's capability to put on the market a wide range of tradable goods at highly competitive prices. These incorporated agricultural goods, both food items such since rice, sugar and oil since well since raw materials such since cotton and indigo. While the bulk of the deal in these goods was coastal, the high-seas deal component was through no means insignificant. The real strength of the subcontinent, though, place in the provision of big quantities of manufactured goods, the mainly significant amongst which was textiles of several types. While these incorporated high value diversities such since the legendary Dhaka muslins and the Gujarat silk embroideries, the really significant component for the Asian market was the coarse cotton diversities manufactured primarily on the Coromandel coast and in Gujarat. There was a big level demand for these diversities both in the eastern markets of Indonesia, Malaya, Thailand and Burma since well since in the markets of the Red Sea, the Persian Gulf and East Africa. While it is impossible to determine precisely what proportion of total domestic demand for size consumption textiles in these civilizations was met through imports from India, the accessible proof would look to point in the direction of this not being altogether insignificant. India's capability to production these textiles in big quantities and to put them on the market at highly competitive conditions made it in few sense the 'industrial' hub of the area bounded through west Asia on one face and southeast Asia on the other.

This circumstance also determined to a big extent the nature of India's demand for imports from the rest of Asia. This demand consisted essentially either of consumption goods which were not produced domestically for soil, climatic or other causes, or of minerals and metals of several types whose domestic supply was either nil or considerably below the total demand. In the first category were items such as fine spices like cloves, nutmeg and mace from Indonesia, and horses and rosewater from west Asia. The second category incorporated rubies and other valuable stones from Burma, as well as metals – both valuable and non-valuable. Through distant the mainly significant non-valuable metal imported was tin from Malaya. Valuable metals, most silver, were imported overwhelmingly from west Asia. It was for this cause that, from the sixteenth century onward, the port of Mocha was repeatedly referred to as the 'treasure-chest' of the Mughal empire. It is really immaterial for our purposes whether the imported valuable metals are treated as a commodity import or as a means of settling the adverse balance of trade that the concerned trading partner of the subcontinent had with it. The significant point to emphasize is that through virtue of her relatively more advanced building of manufacturing manufacture and her capability to give big quantities of vital manufactured consumption goods such as inexpensive cotton textiles at highly competitive conditions, India significantly enhanced the foundation of trade in the Asian continent. She not only provided the textiles and, on a more modest level, the foodgrains and the provisions in great demand in the neighbouring civilizations but also provided an significant outlet for their dedicated agricultural, mineral and other products. Trade satisfied dissimilar types of consumption requires for India since compared with her numerous trading partners in the Indian Ocean area. This through itself provided an excellent foundation for a significant and rising stage of trade. It is really in this sense that the critically significant role of India in the building of early contemporary Asian trade requires to be assessed.

India and the Asian Trade

The key location of India in the building of Asian trade was also reflected in the significant role of the Gujarati and other Indian trading clusters in the actual conduct of this trade. This role, if anything, was strengthened in the course of the fifteenth century which witnessed the fragmentation of Asian trade into well-defined segments. Increasingly, the participation of the Arab merchants became confined to the trade flanked by west Asia and the west coast of India. This left the trade flanked by the west and the east coasts of India on the one hand, and the eastern Indian Ocean area on the other, approximately exclusively in the hands of Indians – the Gujaratis more than anyone else, but also the Chettis, the Chulias and other clusters from the Coromandel coast, besides the

Oriyas and the Bengalis. The participation of the Chinese merchants was now restricted through and big to controlling the deal flanked by China and Malacca, while the Indonesian and the Malay merchants hardly look to have ventured beyond the inter-island and the port-to-port deal in the Malay-Indonesian area. In sum, Indian merchants from dissimilar areas of the country constituted an significant trading cluster operating in the Ocean.

From the vantage point of India, the two principal segments of maritime Asian deal were the western Indian Ocean and the Bay of Bengal. In the west, the link by the Red Sea and the Persian Gulf extended overland to the southern coast of the Mediterranean. The Bay of Bengal littoral extended by the straits of Malacca to the South China Sea going all the method to Japan. In the west, the region of operation of the Indian merchants stopped at the Red Sea and the Persian Gulf ports, while in the east it extended since distant since Malacca. While there were clear-cut and through and big autonomous regions of operation and linkage in each of these two broad segments and there is a sure amount of merit in analyzing each of these apart, it necessity be established that there was a considerable amount of interdependence and interaction crossways the two segments and that neither of the two should be regarded since a fully autonomous and self-contained organization. One only requires to refer to the big volume of direct deal flanked by Gujarat and Indonesia to realize the significance of this caution. This was equally true at the stage of coastal deal since well, and one only has to remind oneself of the regular deal links in the fifteenth century flanked by the ports of Bengal on the one hand and those of the west coast – in both Malabar and Gujarat – on the other.

In both the Arabian Sea and the Bay of Bengal, a considerable amount of deal was accepted on both on the high-seas since well since on the coastal deal routes. The coastal routes were often dominated through deal in agricultural products such since foodgrains and other bulk goods, and were generally characterized through the exploit of relatively little craft which would ordinarily not be usable on the high-seas runs. Also, in comparison to the high-seas connections, the role of the monsoon winds was comparatively limited in determining the rhythm of deal on the coastal routes.

The West Coast

The west coast of India could conveniently be conceived of since consisting of four separate segments divided roughly at the ports of Chaul, Karwar and Cannanore. To the north of Chaul place the Gujarat coast; from Chaul to Karwar was the Konkan coast; south of Karwar to Mount Eli immediately to the north of the port of Cannanore was the Kanara coast; and to its south the Malabar coast. Throughout the fifteenth century, the ports of Cambay in Gujarat and Calicut in Malabar were the two biggest international ports on the west coast of India, and flanked by them they handled a

considerable amount of re-export deal. Gujarat was a biggest trading region in the subcontinent and the Gujaratis – mostly Muslims but also including Hindu traders – had traditionally been a dominant cluster amongst the Indian mercantile societies. The mainly significant of the new ports to emerge throughout the fifteenth century was Malacca, to which the Gujarati merchants shifted their deal from the Javanese and the Sumatran ports on which they had concentrated until then in their eastern deal. The development of Malacca sustained in the second half of the fifteenth century, and therefore did the Gujarati share in the deal of the port. The goods that the Malacca-bound ships leaving Cambay accepted were, in section, colored woollen clothes and glassware from the Mediterranean, and items such since rosewater, opium, indigo and silver from west Asia. But a big section of the cargo would look to have consisted of textiles manufactured in Gujarat – most of coarse cotton, however more expensive diversities including those manufactured from fine-excellence cotton and silk also look to have figured in the list. The cargo obtained in swap at Malacca incorporated Chinese goods such since silk and porcelain, Indonesian spices such since pepper, cloves, nutmeg and mace, besides woods and aromatics, and valuable and non-valuable metals such since Malayan tin. In addition to Malacca, the Gujarati ships from Cambay described at ports such since Acheh, Kedah, Tenasserim/Mergui and Pegu. The goods accepted to these ports were broadly same to those accepted to Malacca: the goods brought back were mainly of regional origin, rather than cosmopolitan since in the case of Malacca.

There was also a big amount of coastal deal accepted on flanked by Cambay and other smaller ports of Gujarat on the one hand, and ports on the Konkan, Kanara and the Malabar coasts to the south, and those in Bengal, on the other. The principal commodity procured in the Konkan ports of Chaul and Dabhol was textiles, while the largest thing procured in Kanara and Malabar was pepper. A sure amount of rice was also procured in Kanara. At Calicut, limited quantities of Chinese and Indonesian goods were also picked up. Bengal provided foodgrains and provisions such since sugar, butter and oil in addition, of course, to textiles of dissimilar diversities. A section of the big conglomerate of goods brought to Cambay was obviously destined for consumption in Gujarat, since well since the big north Indian hinterland supplied through it. But a good proportion would look to have been re-exported most to west Asia, the mainly significant ports in the area at this time being Aden and Jeddah. The other significant constituent of the cargo to west Asia was textiles manufactured in Gujarat. These were predominantly those manufactured from coarse cotton and designed for size consumption, however larger diversities manufactured from fine cotton and silk also figured in the list. The circuit from Cambay to Aden would look to have been dominated through the Arab, Persian and other west Asian merchants, however the Gujarati merchants also operated on this circuit in an significant method.

The East Coast

The two principal trading areas on the east coast of India were the Coromandel coast and Bengal. The Coromandel coast is conventionally defined since including the stretch flanked by Point Godavari and the island of Manar, south of which lies the Fishery coast. To the north of Point Godavari is the Gingelly coast which is sometimes also incorporated in the Coromandel coast. For our purposes, Bengal would be defined since including the Orissa ports of Pipli and Balasore. There was a fair amount of coastal deal flanked by the ports of the two areas, dominated, it would look, through the merchants of Bengal. At the beginning of the sixteenth century, the principal Coromandel port was Pulicat connected via Tirupati and Penukonda to the imperial municipality of Vijayanagar to the northwest. In Bengal, through distant the mainly significant port was Chittagong which was connected to the capital municipality of Gaur. Satgaon was after that in importance until in relation to the 1580 when, due to the silting up of the waterway on which it was located, it was succeeded through Hugli. Pipli and Balasore in Orissa were the other significant ports in the area.

The high-seas deal from Pulicat was simply in two directions: to Mergui and the ports of the Irrawaddy delta in southern Burma on the one hand, and to Malacca and ports further east in the archipelago on the other. While the deal with Mergui was marginal, that with Pegu and lower Burma, in scrupulous the ports of Martaban and Cosmin, was more substantial. The principal exports from Pulicat consisted of textiles produced all in excess of the Coromandel coast and red yarn from the Krishna delta. The imports into Coromandel incorporated items such since gold, rubies, timber, tin, ivory and copper. The link to Malacca was possibly even more significant. Until its capture through the Portuguese in 1511, the annual traffic to the port from Coromandel generally consisted of one big ship and since several since five smaller ships. The principal items imported into Pulicat incorporated Indonesian spices, several types of wood, Chinese silk and other goods, gold and nonprecious metals such since tin, copper, quicksilver and vermilion. A biggest trading cluster at Pulicat was that of Muslims, a some of Arab origin, but most members of the Muslim societies of coastal southeastern India, recognized since Chulias in sections of southeast Asia and since Marakkayars in Coromandel. The trading society also incorporated Teluguspeaking Chettis of the Baliya and Komatti societies since well since Armenians. At the Malacca end, the mercantile society consisted mainly of the therefore-described *keling* merchants of Tamil and Telugu origin led through people like Nina Chatu and Nina Suryadev.

The Sultan of Malacca himself is also recognized to have participated in this branch of commerce. There was regular deal flanked by Bengal and Coromandel based on the import into ports

such since Masulipatnam of rice, gram, wheat, extensive pepper, opium, clarified butter and Bihar saltpetre through an annual coastal fleet from Bengal. While the ships from Bengal generally returned from north Coromandel itself, those from the Gingelly coast went further south to supply central Coromandel since distant since Pulicat and São Tomé. The Coromandel cargo accepted back to Bengal was raw cotton, tobacco, iron and crucible steel, and few textiles, but the profit looks to have been made mainly on the outward journey.

Since distant since Bengal was concerned, in addition to the coastal deal with southeastern India, the biggest commercial links extended to the eastern littoral of the Bay of Bengal and Malacca, to Sri Lanka, the Maldives and Malabar, and finally to the Gujarat, the Red Sea and the Persian Gulf intricate. The eastward deal was dominated through the deal to Malacca. The exports from Bengal incorporated textiles, rice, sugar and conserves, while the imports were a varied lot. These incorporated Borneo camphor, Moluccan spices, pepper, sandalwood, Chinese porcelain and silk, valuable metals – possibly most silver – since well since foundation metals such since copper, tin, lead and mercury. The relationship with Burma was most by the ports at Martaban, Dagon and Cosmin.

The exports to Sri Lanka, the Maldives and the Malabar coast were again most textiles and foodstuffs, including big quantities of rice. Indeed, besides Kanara, Bengal was the principal rice surplus region in the whole area and regions such since the Maldives depended most on Bengal for their rice necessities. The principal items brought back through the Bengal vessels were cinnamon and areca from Sri Lanka, cauris from the Maldives, and pepper, of which again Bengal was an significant consumer, from Malabar. The deal to Gujarat was accepted on primarily by Cambay, while the trips to Mocha in the Red Sea were often made after a stopover at the Maldives. The principal goods accepted were textiles, sugar and extensive pepper, while the principal thing brought back from Mocha was silver. The explanations of Portuguese travellers Tome Pires and Duarte Barbosa also enable one to decipher the principal components of the mercantile society operating from Bengal. The indigenous merchants of Bengal are called since ‘merchants with great fortunes’ and were an significant constituent of the trading society. But a big section of the deal would look to have been controlled either through merchants based at the partner ports or through foreign merchant clusters settled in the Bengal ports. Therefore the deal with Malacca was dominated through the *keling* merchants settled there. The pepper deal with Pasai and Pidie was accepted on through Persian merchants settled at the port of Chittagong. This last-mentioned cluster would look also to have dominated the deal to the transitional and the western Indian Ocean ports, however the traders on these circuits also incorporated Turks, Arabs, Rumis, Abyssinians and merchants from Chaul, Dabhol and Goa.

The essentials of the Indian maritime trading network and big unchanged in excess of the course of the sixteenth, the seventeenth and the eighteenth centuries. The arrival of the Portuguese into the Asian Seas at the beginning of the sixteenth century did indeed introduce few units of transform in the functioning of this network but it is significant not to in excess of-emphasize the nature or the magnitude of such changes. It is, for instance, basically not true to claim that on the strength of the larger fighting domination of their vessels operating in the Asian Seas, the Portuguese were able to dominate the Indian Ocean deal at the cost of Indian and other Asian trading clusters. Devices such since the *cartaz* organization which obliged Indian ships operating on specific circuits to seek prior permission of the Portuguese and paying traditions duties at the ports controlled through the latter were at best minor irritants involving a little additional cost from the point of view of the Indian maritime merchants and nothing more. More direct intervention through the *Estado da India* by devices such since the concession organization on a reserved circuit foundation again did indeed reason a sure amount of dislocation and inconvenience to say the merchants operating from a Coromandel port such since Pulicat. But the response of the Indian merchants was to make an alternative network of ports in the Bay of Bengal and avoid the Portuguese controlled ports. It would look to be approximately certainly the case that the overall implications of the Portuguese practices and policies for the fortunes of the Indian maritime merchants were practically nil.

With the arrival of the English and the Dutch on the scene at the beginning of the seventeenth century, the overall situation did not undergo any fundamental transform. However both these Companies formally took in excess of the *cartaz* organization, it was never enforced with any vigor through either. Of the two, only the Dutch East India Company occupied in intra-Asian deal and was concerned in relation to the competition from Indian merchants operating on the similar circuits, but there was extremely small the Company could do in relation to the it. The Europeans had no option but to participate in the maritime deal from India since basically another cluster of merchants doing business in the area.

This situation was eventually altered to a sure extent in the second half of the eighteenth century when the English East India Company wrested *diwani* rights in the Bengal *subah* in 1765 from the Mughal emperor. The employees of the Company occupied in deal on their private explanation took full advantage of the political domination now accessible to the Company. This domination was often used to make unauthorized monopolies of several types, particularly in highly profitable items of deal such since opium. The deal of the rival Indian merchants was also sought to be hindered in a diversity of other methods. It is, though, a great tribute to the vital strength and the resilience of the Indian maritime merchant that he steadfastly refused to be overwhelmed through the fair and unfair competition provided through the English private traders. If the deal with China where

opium figured in a large method now became unviable for the Indian merchant, he sought new markets in South-East Asia and through and big made up for the loss of the China market. The point is that while it was indeed the case that the newly establish domination of the English created troubles for the Indian maritime merchant, he displayed enough flexibility to be able to keep in business.

Historiography of Asian Deal

In order to put our discussion in perspective, it might be useful to refer briefly to few key concepts that have appeared in the historiography on Asian deal in excess of the last three quarters of a century or therefore. The pioneer in the field was a Dutch sociologist-historian Jacob van Leur who argued that the Asian merchant was no more than a pedlar and that the deal was overwhelmingly in luxuries. The role of the merchant was confined to hawking his wares from market to market and the only transform in the deal was the waxing and waning in its volume. Van Leur was clearly wrong in maintaining that deal in luxury goods was a principal feature characteristic of Asian deal. We now know on the foundation of detailed research that it was indeed the deal in ordinary goods – the mainly significant component of which was Indian textiles of everyday wear – that dominated the Asian deal. But Van Leur's pedlar hypothesis establish a strong supporter in Niels Steensgaard, a Danish historian who further refined the hypothesis and urbanized it approximately into a theory. Steensgaard argued that the pedlar of the Indian Ocean operated in a world of non-transparent markets and did not enjoy the defense of buffers such since intermediaries and stocks against perhaps big price fluctuations. An Indian historian, the late Ashin Das Gupta argued that the concept of pedlar was not necessarily in clash with the information that in addition to the predominance of little merchants who traveled the maritime circuits in the Indian Ocean with their bundle or two of coarse cloths, prosperous ship-owning merchants such since Mulla Abdul Ghafur also participated in the Indian Ocean deal in an significant method. He agreed with Steensgaard that the markets in the Indian Ocean were little, easily glutted and exceptionally erratic. Das Gupta wrote, "Price was fixed through matching demand and supply, only no one could tell the state of demand and supply much beforehand. This meant that even the big operators were the victims of the eccentricities of the market. If insecurity be carried since the real hall-spot of peddling deal, then the Indian Ocean market in the early 18th century was a pedlar's market".

Another concept that Niels Steensgaard urbanized in the context of the rising European participation in the Indian Ocean deal in the sixteenth and the seventeenth centuries was that of Asiatic Deal Revolution. Steensgaard argued that the Portuguese European- Asian trading network,

by the newly exposed all-water circuit via the Cape of Good Hope on an exclusive foundation, was essentially a redistributive enterprise which simply meant that the Portuguese state used its monopoly domination in excess of the circuit to force the Portuguese merchants to share their profits with it and through and big acted since a parasite. This situation changed radically from the beginning of the seventeenth century onward with the establishment of the Dutch and the English East India Companies. He drew a sharp contrast flanked by the seigneurial and redistributive nature of the Portuguese enterprise on the one hand and the rational and productivity – maximizing policies of the Companies on the other. Therefore, “the Portuguese pepper monopoly was not a business but a custom-home.” On the other hand, the success of the Companies was not based upon government monopolies or the exploit of violence but on their skill to compete in the market. For through adopting specific policies in relation to stocks, pricing and the mode of disposal of their goods, the Companies made impressive gains in the transparency and the predictability of the markets in which they operated. In his writings, Om Prakash has argued that recent job in the field would look to suggest that while sure key units in Steensgaard’s formulation continue to be valid, the overall characterisation of a redistributive enterprise for the whole Portuguese trading operations both flanked by Europe and Asia since well since those within Asia is in require of revision. This is partly because the Companies were not quite since devoid of the exploit of monopoly and violence since Steensgaard’s model in a pure shape would look to imply. More importantly, we now know that the Portuguese enterprise was indeed extremely much more than a easy Euro-Asian deal in pepper, the commodity most responsible for the characterisation of the deal since redistributive in nature. From in relation to the last quarter of the sixteenth century onward, pepper increasingly lost ground to other goods in Portuguese Euro-Asian deal. Also, in addition to the Euro-Asian deal, there was a considerable amount of deal the Portuguese private traders accepted on within Asia in respect of which too the redistributive characterisation will really not apply. The manner in which the deal was accepted on was in its essentials not extremely dissimilar from the method the northern European corporate clusters and private traders accepted on their deal.

Om Prakash has also suggested in his job that in the context of the European trading operations in the Indian Ocean, there indeed was an Asian Deal Revolution taking lay from the seventeenth century onward but of a type extremely dissimilar from that suggested through Steensgaard. This Asian Deal Revolution consisted partly in the phenomenal expansion in the volume and value of Euro-Asian deal and partly in a biggest diversification in the composition and the origin of the Asian cargo entering this deal. Initially, both the Dutch and the English concentrated on the procurement of pepper and other spices which, since in the sixteenth century, sustained to explanation for an overwhelming proportion of the total Asian imports into Europe. But unlike, and

indeed most because of, the Portuguese, the Dutch and the English procured their pepper in Indonesia rather than on the southwest coast of India. The result was a marked shift in the Asian loci of the Euro-Asian seaborne deal from India to the Indonesian archipelago. This was the Asian counterpart of the shift of the European loci of this deal from Lisbon to Amsterdam and London. It was almost three quarters of a century before the Asian loci shifted back to India in response to the transform in European fashions assigning an increasingly significant role to textiles and raw silk in the Asian imports into Europe. It was only in the second half of the eighteenth century that the rising role of Chinese tea again deflected somewhat from the central importance of India in Euro-Asian deal.

BUSINESS PRACTICES AND MONETARY HISTORY

Business Practices and Monetary Economy: Overview

Business practices can be defined since a series of behaviors oriented towards organizing and facilitating the procedure of manufacture and swap of goods and services at a minimum cost. The success of business ventures depends to a extremely big extent on the ways employed through individuals or firms to raise and allocate possessions, overcome obstacles and lower the cost of transactions. No business can be mannered without the attendance of money. Money is an significant medium of swap since well since a measure of the value of goods and services transacted in the market. The availability and exploit of money are critical to the institution of the economy in common and of business in scrupulous.

The Market and Monetary Swap

For any business to flourish, a sure stage of economic growth is essential to sustain the demand and supply of goods and services. The economy of medieval India was made up of two overlapping components. The first was the existence economy of village societies where the swap of goods and services was based on a socially recognized network of barter swap. Here the role of money was marginal and the possibilities of business, minimal. The other was the domain of commercialized economy, both in the countryside and urban centers, where market dealings of swap prevailed. It was here that money was used on a big level and opportunities for business were realized with varying degrees of success.

Two broad streams of swap operated within the commercialized sector of medieval India: one regional and the other connected to extensive-alloofness deal and foreign markets. The demand for

money in the regional network of swap stemmed from the consumption of goods and services and the tax obligations of the rural and urban population. At the lowest stage, the village society obtained its weekly supplies of several kinds of goods from the adjacent *qasba*, and made cash payments to the state in the shape of revenue. The money supply of the village came from the sale of its agrarian products in dissimilar markets. It supplied granules to the *qasbas* and surrounding cities by rural merchants and nomadic traders, who brought the cash back to the countryside. Villages located close to deal circuits urbanized their own markets for specific commodities and held large seasonal fairs which attracted buyers from close to and afar.

The urban centres and entrepôts of India were immersed distant more deeply in the route of market swap. Here, the concentration of the bureaucracy, soldiery, mercantile classes and artisans created a permanent demand for food supplies, craft goods and services. Urban taxes were always composed in cash and spent on meeting the administrative costs and consumption expenses of the resident ruling elites.

The other stream of swap extended from the countryside to the urban entrepôts for the seasonal supplies of export goods. All biggest commodities which generated deal surplus – textiles, indigo, saltpeter and sugar – were produced and processed in villages before being fed into the market chain which led to export through sea and land. Indian products were sold in the markets of the Transitional East, Africa and Europe in the west and Southeast Asia, China, Japan and the Philippines in the east. Returning ships and caravans generally brought foreign currencies or uncoined metal to start a fresh cycle of swap. The networks of commercialized swap – spread crossways a hierarchy of markets, shops and office cum warehouses – required the exploit of money at every level. Prices, wages, salaries and taxes were expressed and paid in money. The total money supply came from internal stock since well since imports of gold, silver and copper by foreign deal. The organization responsible for supplying money to the market was the mint owned through the state, run through administrative officials and serviced through skilled craftsmen. The mainly detailed account of the functioning of sixteenth century mints seems in the first chapter of Abul Fazl's *Ain-i Akbari*. Mints were located in the biggest commercial and administrative municipalities of India and operated on the principle of open coinage i.e. any supplier could obtain coins from the monetary authorities on payment of minting costs and a tax.

Overtime, several changes took lay in the medieval Indian market building. The volume of agricultural manufacture, raw materials, manufactured goods, deal and money supply expanded and contracted with changes in the population, technology, professional skills and craft techniques, economic policies of the state, and the global marketplace. Business institution and practices also varied with these changes in excess of time and crossways areas.

Administrative and Legal Building

The medieval Indian state contributed to the making of a viable environment for seeking employment and doing business. Although political interference was present, it did not materially affect the free trade character of the state. There were no legal restrictions on practicing a profession or undertaking a business venture and no limits were placed on earning or accumulating money. Alauddin Khalji was the only ruler who interfered with the market to fix prices just as to the cost of manufacture and merchant's profit, but his market regulations became obsolete soon after his death. The efforts made through the Mughal Emperor Shahjahan to meddle with the market and make monopolies had to be abandoned throughout his lifetime.

The obligation for the payment of debts and resolution of liabilities was governed through customary laws enforceable in regional courts. For example, the declaration of bankruptcy through a businessman freed him from all obligations until he was proven solvent in a court of law. Lighting candles in front of the home to announce bankruptcy was a customary practice, which could have been the origin of the term *diwaliya*. The caste *panchayat* and assembly of elders were the primary organizations which adjudicated and settled commercial disputes. Beyond these, the courts of the regional and provincial governments heard grievances, received petitions, and passed verdicts. Medieval rulers allowed and encouraged artisans and workers to settle in newly founded municipalities, and the territorial unification and political continuity achieved under successive regimes facilitated the short and extensive-alloofness migration of professionals and businessmen to regions of opportunity. The standardized currency organization, the institution of the mint, the taxation organization, and the maintenance of law and order worked jointly to give continuity to the economic building.

Social and Professional Building

The main cluster of businessmen in medieval India belonged to a sub-division of the Vaishya caste recognized since *bania*. Although there were other social clusters such as the Khatri of Punjab, the Bohras and Parsis of Gujarat, and the Chettiars of South India, the *banias* were arguably the mainly widespread and influential. There were big clusters of *banias* in Isfahan and Bandar Abbas since well as Mokha, the well-known Red Sea port of Yemen. The *banias* dedicated in several branches of business, such as commerce, brokerage, money-changing, banking and insurance. Specialization and the pursuit of commercial interests turned them into separate and distinct clusters. Large *banias* who managed their business from their offices with the help of

mediators and correspondents were recognized since *seths*, *sahukars* and *kothiwalas*. Members of the *bania* society who combined commodity deal with money-lending and banking were recognized since *mahajans*. The Persian writers used the generic term *baqqal* for all *banias* when they were not referring to a specific sub-cluster.

The dominance of the *banias* in the business world of medieval India was made possible through the several qualities they possessed. Even however the society was divided into separate professional clusters which often competed with one another, there was a superior sense of fraternity which enabled them to join jointly in social intercourses and business enterprises. They learnt and perfected their skills with vigor and intelligence and transmitted them from one generation to another. The *banias* were driven through a spirit of acquisition to attain success in a competitive environment, but they had the good sense to temper it with thrift, patience and perseverance. A seventeenth century French jeweler and a frequent traveller to India, Jean Baptiste Tavernier, gave a profile of the *bania* society which brings out few of its best characteristics:

- The third caste is that of the Banians, who attach themselves to deal, few being shroffs, i.e. money-changers or bankers, and the other brokers, through whose agency merchants buy and sell. The members of this caste are therefore subtle and skilful in deal that, they could provide lessons to the mainly cunning Jews. They accustom their children at an early age to shun slothfulness, and instead of letting them go into the streets to lose their time at play, since we usually allow ours, teach them arithmetic, which they learn perfectly, by for it neither pen nor counters, but the memory alone therefore that in a moment they will do a sum, though hard it may be. They are always with their fathers, who instruct them in deal and do nothing without at the similar time explaining it to them. figures in their books, both in the Empire of the Great Mogull, since well in other sections of India, although the words may modify. If anyone gets in a rage with them they listen with patience, without replying, and withdraw coldly, not returning to see him for four or five days, when they expect his rage will be in excess of.

Another jeweller, an Indian named Banarasidas, offered at in relation to the similar time an intimate portrayal of the social and professional world of north Indian *banias*, since well since precious information on the ways of doing business, in his autobiography. Banarasidas collected his autobiography in verse at the age of fifty five and described it *Ardha-kathanak* because, being a Jain of the Srimal sub-caste, he whispered that the ideal life span of an individual was a hundred and ten years. He went to school at the age of eight in his native city of Jaunpur and later learnt double-entry book keeping at house and money testing in the market, and finally set out on his maiden business

venture to sell jewellery, gems and other goods at Agra. As suggested, refer to Banarasidas on and off in our reconstruction of the business ways and practices of his kinsmen and compatriots.

Monetary Economy and Currency Circulation

If we take an extensive-term view of the history of pre-colonial India, three broad cycles of monetary movements can be discerned. Gold and silver were used in the Indus culture since money-metals but there was no coinage and pieces of valuable metals were circulated on the foundation of assumed or assayed purity. The hoard of a thief establish at Harappa incorporated ingots of gold and silver in the middle of items of jewellery. The Rig Vedic Aryans usually counted their wealth in cows, camels, horses and slaves but there is also proof of the exploit of unstamped silver pieces of dissimilar elements and precious substances for swap. On the eve of the rise of Buddhism, a second 'urban revolution' was accompanied through an expansion of deal, the exploit of gold dust in annual tribute payments and the circulation of silver punch-marked coins. A high point of monetization was reached with the long exploit of gold and copper currencies in the Kushana and Gupta eras. The cycle ended with an era of monetary contraction, following a decline in the swap network and commerce under the stage of 'Indian feudalism', in which gold coinage practically disappeared, silver money became unusual and copper currency circulated on a moderate level.

A gradual reorganization of the monetary economy took lay in early medieval India, with the revival of urbanization and foreign deal, and the introduction of monetary and fiscal organizations from Central Asia. The establishment of the Delhi Sultanate in the thirteenth century, and its extension to Gujarat in 1299 and to Sind and southern India a some years later, brought in relation to the a perceptible transform in the manufacture and circulation of currency money. The Delhi Sultanate promulgated a standardized multi-metallic currency organization of gold and silver *tankas*, billon *jital* or *damma* and copper *paika*. The widespread circulation of gold, silver and billon currencies designates big-level transactions and fuelled the expansion of the Sultanate's swap network. It was possible for the state to realize revenue in cash, for peasants to pay taxes through selling their products in the market, and for merchants, manufacturers and bankers to create money out of cash and credit transactions. We gather this from both numismatic and textual proof, such since coin specimens preserved in museum and private collections, the *Drvyapariksha* of Thakkura Pheru, a Khalji mint official, and the *Tarikh-i Firozshahi* of Ziauddin Barani, a fourteenth century Delhi intellectual and companion of Sultan Muhammad Tughlaq.

The second cycle ended in the downturn of the fourteenth century with a transition from valuable to foundation metal coinage and shift in the mode of payment from cash to type. Once

again, gold disappeared entirely from the route of swap, silver gave method to billon, and currencies reserved for petty transactions, such since copper and cowries, began to compete for a superior share of the market. The monetary contraction coincided with a worldwide shortage of silver, designated 'bullion famine' in Europe. It was under these conditions that the much derided policy of Muhammad Tughlaq to set up a fiduciary currency came into effect. The third cycle began with the establishment of a new currency regime through Akbar on the basis laid through Sher Shah Sur, the Afghan ruler. Sher Shah revived the classical trimetallic currency of the Delhi Sultans to strengthen his political power and organize the funds of the territories he had conquered from Humayun. A pure silver coin through the name of *rupiya* was introduced beside with the gold *ashrafi* or *muhr* and a heavy copper coin described *paisa* or *dam*. Akbar's management expanded this currency building and displaced the previous billon and copper regime, reflecting a series of growths within and outside India.

The mainly significant external growth at this time was the eastward transmission of European silver obtained from the mines of Peru and Mexico to fund the Indian Ocean deal. The Mughal Empire alone received an annual supply ranging from 85 to 131 metric tons of silver to become the major importer of foreign money outside Europe in the late sixteenth since well since the seventeenth centuries. At the similar time that Spanish-American silver was on its outward journey to India, the Mughal Empire expanded westwards to embrace the coastal areas of Gujarat and Sind, which were direct recipients of foreign bullion not only from Europe but also from Japan. In the second half of the seventeenth century, Bengal appeared since a biggest destination for the transmission of valuable metals through the Dutch (VOC) and the English East India Companies. The territorial expansion of the Mughal Empire created circumstances for the integration of coastal hinterlands into a single network of commodity swap, fiscal remittances and currency circulation.

The absorption of external and internal stocks of monetary metals was facilitated through the state and the market. The Mughal state adopted fiscal and monetary policies which streamlined and expanded currency circulation in the empire. A policy of collecting taxes and disbursing salaries in cash triggered a cycle of monetary circulation aided through the open coinage organization of the imperial mints. A series of events were taken from 1582 to make a standardized currency organization in the empire by the replacement of local since well since old and sub-average coins with freshly minted Mughal currency. Money-changers and merchants offered a sure uniformity and cohesion to the regions sheltered through the network of monetized swap, through negotiating the movement of cash, goods and services crossways traditions barriers and flanked by dissimilar sectors of the economy. The uniform and standardized currency organization which appeared after three decades of intense administrative and market changes was continued through a consistent flow of

silver by foreign deal and its absorption into the route of swap. The domain of petty transactions was dominated through the exploit of fractional pieces of the silver rupee and copper currencies. At the stages of swap where prices needed to be expressed in elements lower than the copper coin, metallic currency was complemented through cowrie shells in Bengal, Bihar and Orissa and bitter almonds in Gujarat. Being imported respectively from the Maldives and Iran, cowries and almonds were more abundant at the coast but were in greater demand in the hinterland.

The Deccan and South India were dissimilar from the north insofar since their monetary systems were based pre-dominantly on gold with copper since the second metal. The principal gold coin of this area was recognized since *hun* in the vicinity and *pagoda* internationally. It was modeled on the Venetian gold coin, *ducat*, which was a biggest currency of international commerce on the Mediterranean-Indian Ocean axis, and has been rightly described the 'dollar of the Transitional Ages'. The *ducat* came to India in big quantities in the fourteenth and fifteenth centuries and inspired a series of imitations, the *hun* being one of them. The *hun* was of the similar weight, fineness and appearance since the *ducat*, the only variation being that the latter had portraits of the Venetian duke and Saint Spot, while the former had images of Indian deities, such since Uma-Maheshvara. For this cause, Persian writers often used the term *ashrafi do buti* for the two coins. From the second half of the seventeenth century, those regions of the Deccan which came under the power of the Mughal management had to pay tribute in silver rupees and began to turn tri-metallic.

Business Practices

Partnership and brokerage were two biggest characteristics of business practices. Both Generally operated within the extended family and the success depended mainly on the co-operation of the members.

Partnership

The two principal components of any business venture are capital and labour. If an individual possesses both, he can operate on his own for since extensive since the scope of his business permits. In the absence of either, or due to their limitations, the option to seek co-operation from kinsmen, members of the similar caste and sub-caste, and even outsiders becomes desirable. The formal arrangement in which two or more parties bring jointly their labour, ability and capital is recognized since partnership. Partnership is an significant business practice which assumes intricate shapes depending upon the nature of the enterprise and obligations of the participants. In medieval India,

partnership was an established shape of financing and expanding a business venture and offered the best means to share risks and profits. Banarasidas' father, Kharagsen, began his career through joining his maternal uncle, Sundardas, at Agra since a partner in the business of money-changing and sale and purchase of gold. They pooled their capital and commissioned it to a joint finance which they both operated. In those days, changing one currency into another was a task which required dedicated knowledge of swap rates and was done mostly through the *sarrafs* who charged commissions for their service. In four years, the profit earned through Kharagsen was therefore good that he got married and bought a distinct home for his family. The partnership was dissolved automatically when Sundardas died without a male heir. Kharagsen handed in excess of the share of his deceased partner to the latter's daughter in front of the elders of the business society, and left for Jaunpur with his goods and cash.

Partnerships which involve the extended family seem to have been the mainly general shape of doing business in medieval India. Though, the search for appropriate partners encouraged prospective entrepreneurs to seek wider co-operation beyond the kinship route. Banarasidas once became the partner of an Oswal Jain, and Kharagsen had a Shaivite since his extensive-standing business partner. In both cases, partnerships were shaped in the middle of members of *bania* sub-castes who were unrelated to each other. Partnerships could further involve merchants and businessmen of dissimilar social classes. It was not rare for little traders to acquire cash and goods from large merchants or nobles to start trading under *commenda*, a practice which allowed investing and travelling merchants to combine their possessions for mutual benefit. Profits earned from *commenda* were generally sufficient in the seventeenth century to be measured legal and taxable through the Mughal state.

Business firms and mercantile clusters often contracted members of their own profession to deal on their behalf not since partners but factors or mediators. The factors closely followed the orders and serviced the necessities of their principals while conducting their own self-governing business. The factors generally received a commission or a share of the profit. Agreements could also be reached flanked by two self-governing merchants or firms doing the similar business in two dissimilar sections of the country to symbolize each other's interests in their respective regions since correspondents. The *sahukars* and *sarrafs* of the Mughal Empire had both factors and correspondents in biggest municipalities and courts who stayed in secure touch with one another by a vigorous swap of letters and commercial intelligence. In several cases, news of the latest political growths reached the merchants first and state officials later. The purpose of such practices was to widen the scope of business and stay a secure tab on markets without incurring the cost of establishing a full branch.

Brokerage

Since economy develops, the immediacy and transparency of doing business begin to diminish. The multiplicity of business transactions tends to distinct the parties from each other and from their markets. To overcome such obstacles, businessmen need the services of a broker to secure the legroom flanked by transactions that remain far in time and legroom. It is hard to conceive of any successful business world without the organization of brokerage. In medieval India, the practice of conducting business with the help of brokers was fairly general. Present in all commercial centres, the brokers belonged most to the *bania* society, with a some Parsis and Muslims. It was customary for all large merchants to have a broker to obtain several kinds of commodities and stay them ready for shipment or sale in the right season. As suggested, talk about shortly how brokers and sub-brokers were employed to create cash advances to manufacturers of cloth and indigo. Mulla Abdul Ghafur, the merchant prince of Surat, had a broker described Gangadas, while his grandson, Muhammad Ali, had two. Foreign merchants always had brokers, who skilled in the Rates and value of all the commodities in India' and without whose assistance no one could 'do any Business' in India.

The brokers generally organized their business since family firms with joint investments and explanations run through a senior member chosen for his experience and expertise. At the end of each day, all working members of the family assembled to talk about the trades they struck and provide explanation of the money they received and spent. Normally, the brokers charged one percent since commission from each party on every business trade, but the rate could go up if the transaction was intricate or the amount of investment big. The brokers closely guarded the secrets of their deal and used codes and representations to communicate with buyers and sellers since in contemporary stock markets. We know of two seventeenth century firms of Chhota Thakur and the Parakh family operating in western and northern India respectively, which counted European and other merchants in the middle of their clients.

Credit Practices and Instruments

In urbanized market economies, currency alone does not constitute money. Specific swaps can be made through employing a organization of credit or deferred payment. Cash and credit co-exist in complementary manners to facilitate the movement of goods and money flanked by markets and individuals. In medieval India, an significant practice was to exploit other people's money to fund and reduce the cost since well since the risk of business transactions. The cluster of people who dedicated in extending credit facilities to their customers was the *sarrafs*, who combined currency

swap with banking. The term ‘banker’ was first used for Italian money-changers who sat on benches and offered credit to merchants in the fairs of Champagne and money market of Bruges. Indian *sarrafs* too used diverse commercial strategies to raise and deploy capital more efficiently.

Money-lending and Dadani

Demand for money and the freedom to charge interest on loans underpinned the business of money-lending in medieval India. Money-loans were the mainly popular shape of financing commerce, while trading on borrowed capital was the norm in the middle of little and large merchants. Half of the capital for Banarasidas’ first business venture came from his family and half of it was borrowed. The *sarrafs* took a leading location in financing business through advancing short and extensive-term loans depending on the seasons and conditions of the borrowing. The rate of interest charged on loans was determined through the supply and demand of money and creditworthiness of the borrower.

In large municipalities like Surat and Agra, the dominance of the *sarrafs* can be explained through the attendance of the mint and bullion market, which were cornerstones to their business behaviors. In townships and villages, or even in large cities where the row separating commerce and money-lending was thin, it was the *mahajans* who provided commercial and consumption loans to peasants to raise crops and pay taxes and to the *mansabdars* against their *jagirs*. Few thought of the mass of capital advanced through the money-lenders can be shaped through the transactions of the European merchants. During the course of their deal, English and Dutch factors had to grapple with the problem of arranging funds for their purchases. It seems from their correspondence that they always remained short of capital and took recourse to the credit market to meet their investment requires. Table 1 suggests that in three months of the year 1670, approximately 3.4 *lakh* rupees were borrowed through the English from the *sarrafs* of Surat. Through the end of the year, their loans reached 6 lakhs or 75 per cent of the total investment the East India Company made in that year. This was not the case with the English alone. The Dutch merchants at one time were accounted to have run up a debt of 80 *lakh* rupees.

Credit was also supplied through merchant-borrowers themselves to peasants and artisans to ensure the supply of goods at bargain prices. This practice was recognized through the technological name of *dadani*. Although manufacturers of textiles or indigo were free to sell their products in the regional market, they often had to rely on brokers and merchants to buy raw materials and uphold the desired stage of manufacture for a regular market. In regions where merchants had to side competition for supplies, loans were extensively used to set up precedence in excess of other buyers. Where the manufacturers happened to be peasants and were required to pay land revenue, the

dependence on merchant capital was often dictated through the require to stay manufacture going if taxes had to be paid before the harvest. This network of credit and manufacture was continued through a succession of intermediaries acting since links flanked by artisans and merchants. In order to obtain Bengal textiles, for example, brokers were occupied to provide money to the *paikars*. The latter delivered it to the weavers. The brokers received 1 to 2 per cent from the *paikars* who, in turn, charged commission from the weavers. As the finished products were mostly obtained through merchants at pre-fixed prices, which took into explanation interest charged on *dadani*, the cost of credit was eventually passed on to the weavers.

Banking and Bills of Swap

The expansion of the swap economy and business opportunities created greater demand for money and exerted pressure on accessible credit possessions. While moneylenders and bankers attempted to enlarge their loanable capital through reinvesting profits earned from interest, in due time, they also tapped possessions outside the money market to run their business operations. Deposit banking appeared to give another significant source of money supply. Medieval bankers – *sarrafs*, *mahajans* and *sahukars* – carried deposits from individuals, merchant-clusters and state officials who had cash to put out on interest. Deposits carried from investors were then employed since interest-bearing loans. The banker carried short-term time deposits against bills of swap. The *hundi* was a piece of paper, generally written in Hindi or any other Indian word, promising the payment of a sum of money to the bearer at a scrupulous lay either immediately or afterwards. The *darshani hundi* was paid at sight whereas the *miyadi hundi* was redeemed after a stipulated era of time. It was described bill of swap because the device was originally associated in Europe with the swap of foreign currencies given at one lay and taken at another. Two kinds of *hundis* were popular in medieval India: one which was an instrument of money transfer, and the other which was an instrument of credit. It was the first kind which was used through the bankers to accumulate capital. If a businessman decided to send money from one lay to another, he could deposit the cash with a *sarraf* in swap for a *hundi* and avoid risks of transportation. When a merchant-caravan from Surat to Agra was intercepted through a group of highway robbers, the bag carrying the *hundi* was opened through them and eventually returned. The *hundi* was delivered to the shop of the *sarraf's* agent or partner where it was honoured and the amount specified in it was paid to the bearer. The *sarrafs* charged a little fee for providing the service which, in the middle of other things, determined the swap rate of the *hundi*.

The English and the Dutch were two of the many merchant clusters trading in India who remitted money by *hundis* to supply capital to their regions of investment. Individual merchants

traveled with small cash and kept their largest capital in circulation through transferring it from one lay to another by *hundis*. The remittance of money from the state's treasury to its officials in dissimilar sections of the Mughal Empire was also affected by *hundis* drawn through the *sarrafs*. In the sixteenth century, Akbar sent 3 lakhs of rupees to the Mughal army in the Deccan. Later, a same amount was remitted through the governor of Patna to Agra. Drawn against a deposit with a banker, the *hundi* had a cash value. Since a result, it was saleable in the market at a little discount, which accounted for the gain of the buyer, whose cash was locked up till the bill's maturity. The buyer could receive cash from the drawee or exploit the bill to create payments. This shape of credit, emerging out of the negotiability of the bill, endowed it with a purely monetary function and contributed directly to rising the volume of money in circulation. While the money deposited for the bill was lent out through the banker, claims against it were used simultaneously to settle other transactions. The bankers also carried deposits from their customers which were payable on demand at any time of the month. A classic account of this practice at Agra could be establish in the letter of an English Factor dated 1645 AD:

- Those that are great monies men in the townie, and live only upon interest receive from the sheroffs no more than 5/8 percent per month. The sheroffs dispose it of to others from 1 to 2.5 percent... Now when the sheroff hath disposed of great sommes to persons of qualities at great rates, not suddenly to be described in to serve his occasions, then begging his creditors like sheepe one to run in excess of the neck of another, and quite stifle his reputation. Therefore... hath two well-known sheroffs been served within a month, one of which failing for above three lack of rupees, diverse men have lost great some and others completely undone thereby; which hath caused men of late to bee extremely timorous of putting their monies into sheroffs hands.

This is an motivating instance of deposits payable on demand which the Agra *sarrafs* carried from prosperous people of the municipality. The amounts were lent out at higher rates of interest to creditworthy clients. The variation flanked by rates paid on deposits and loans constituted the profit of the banker. Since borrowers were not expected to return the money at once, when depositors demanded their money back, the *sarrafs* had no choice but to declare bankruptcy. The depositors lost their money and the *sarrafs* their reputation. This serves to correct the notion that surplus money in India was either locked up in chests or buried in courtyards. It also seems that the practice of investing finances in deposits or loans was therefore general that but for a series of bankruptcies, it may not even have attracted the attention of modern observers. Another English merchant noted with care that cases of bankruptcy in India were 'fare lessee than in England' because it was measured

socially disgraceful, and there were 'stricter laws to binder men to honest performance' of their business.

In order to avoid a shortfall in their cash holdings and preempt the failure to meet obligations, the bankers adopted two practices. The first was to discourage the conversion of bills into cash by book credit. In this, the bankers made payments for the incoming *hundis* not in cash but through opening a credit explanation in the name of the bearer for that amount or through creation an entry in the ledger against his name if he already had an explanation with them. This practice was recognized since *anth*. On the strength of his explanation, the creditor made payments to others through drawing a *hundi* on his banker. The facility was also accessible to those who had cash deposits with the bankers. The banker employed the similar technique while honoring his client's *hundi* and therefore created a organization of book credit which dispensed with the requirement of cash payment. If any one decided to break the network of floating credit through challenging cash, he was paid in coins of inferior value, described *kachcha anth*, even however his explanation was kept in newly minted coins of higher value described *pakka anth*. The variation in the swap values of old and new coins determined the rate of *anth* and fluctuated with the availability of money in the market. The bankers often raised the rate of discount while en-cashing *hundis* when there was a shortage of money. *Mirat i Ahmadi*, the *sarrafs* once increased the rate of *anth* deduction to 20 per cent which drew vast protests from the merchants and brought the market to a standstill.

The second practice of the bankers was to exploit *hundis* to transfer money from a lay where it was in plenty to another where there was a shortage. This was achieved through encouraging people to deposit cash where it was required and borrow where it was in abundance. The merchants often borrowed money to fund their business through issuing their own *hundis*. One month after his father's death, when Banarasidas decided to commence a fresh cycle of business, he wrote a *hundi* for 500 rupees, composed cash and bought cloth. Such *hundis* were discounted through the bankers at a price which incorporated interest for the duration of payment and determined the swap rate of the *hundi*. Through altering swap rates of the two kinds of *hundi* – bill of remittance and bill of credit – the bankers induced merchants to provide or take money and improve their cash balance location. If this did not job, for a diversity of causes, they transported money physically to their agencies by couriers if the money happened to be in gold or through carts if big quantities of silver were required.

Risk-Distribution Practices: Insurance and Respondentia

Bankers and businessmen livelihood in medieval times knew only too well the dangers of extensive-alooftness deal and travel and the risks to which their capital and goods were discovered. In

its mainly elementary shape, risk-distribution was witnessed in the partnership arrangement we saw where two or more persons shared profits and risks in an agreed proportion. Though, in such cases, the administration of risk was internal to the procedure of trading and did not give full cover against losses and uncertainties. Insurance was an significant business practice which brought in a third party to underwrite risks on payment of a little sum recognized since premium. The first firm proof of inland and marine insurance in India came from the seventeenth century. In India, two kinds of insurance arrangements were provided through the *sarrafs*. In the first and more elaborate organization, called through a late 17th century writer, Sujan Rai Bhandari, the author of *Khulasat-ut Tawarikh*, insurance proper was joined to carriage and the insurers undertook the conveyance of the merchant's consignment since well. Here, insurance sheltered not only risks of loss but also tax payments and transport costs. The rates for such arrangements were so higher than ordinary insurance for the similar merchandise and destination. In running the business of carriage and insurance, the *sarrafs* made exploit of a class of people, described *adhvaya*, who dedicated in cartage and the payment of transit dues for a fixed sum of money. The *adhvayas* were essentially carriers who made profit out of savings from tax payments while accepting a lump sum from merchants or insurers.

Besides this specifically Indian shape, there lived the more usual shape of insurance which was devoid of any obligation on the section of the *sarrafs* to convey goods. This incorporated insurance of goods and money in transit in excess of land and sea at a cost. The rates for inland and marine insurance were based on the circumstances of security on roads and seas. Any breakdown in law and order, rise in the incidents of robbery and piracy, political instability or a natural calamity enhanced the premium. It is noteworthy that the rates of insurance in the Mughal Empire were measured moderate through contemporaries and were not higher than those prevailing in Central India in the nineteenth century. Sujan Rai mentioned that travellers could undertake their journey without fear of thieves and robbers, and we know from other sources that the Mughal state had an outstanding policy of holding officials responsible for the crimes committed in their jurisdiction and creation them pay for the losses suffered through the victims. The availability of fund and defense against loss were the two biggest concerns of medieval businessmen and they were jointly taken care of in a single practice. In several municipalities of the Mughal Empire, merchants had the facility of borrowing money through drawing *hundis* payable at Surat on condition of the safe arrival of their goods. The rates of such *hundis* were higher than ordinary credit bills because they incorporated insurance premium. The maritime adaptation of this practice was recognized since *avak* in India and *respondentia* in Europe. At Surat, *respondentia* loans advanced to maritime merchants to ship their

goods to the several port municipalities of the Indian Ocean have been called through Jean-Baptiste Tavernier:

- On arrival for embarkation at Surat, you discover there plenty of money. For it is the principal deal of the nobles of India to lay their money on vessels in speculations for Hurmuz, Basra and Mokha, and even for Bantam, Achin and Philippines. For Mokha and Basra the swap ranges from 22 to 24 percent; and for Hurmuz from 16 to 20; and for the other spaces which I have named the swap varies in proportion to the aloofness. But if the goods happened to be lost through tempest, or to fall into the hands of the Malabaris, who are the pirates of the Indian seas, money is lost to those who have risked lending it.

Much like marine insurance, respondentia rates were calculated after an assessment of the nature and mass of the risks such since the excellence of the ship, circuit of the voyage and threats from pirates. Respondentia rates were also determined through the duration of the loan which combined both the length of sailing and the time taken for repayment after arrival at the destination. The returns were therefore high on such loans that even smaller merchants were enticed to speculate on borrowed capital. Respondentia loans provided merchants and businessmen with the initial capital without creation them liable for anything until the venture was successfully concluded. We know from our sources that merchants and investors showed small sign of distress concerning their losses because of respondentia arrangements, while their attitudes were dissimilar in such situations where no security was extended to capital and goods.

Insurance and respondentia supplemented each other because they were both risksharing devices. Presently since the insurers carried the risk of loss of goods, they also underwrote the risk of loss in financial transactions. This meant that all those who advanced risksharing loans, either on land or sea, could themselves go to a *sarraf* to insure their losses for a premium which was lower than what they charged the borrowers. The practice of credit insurance was recognized since *avak vyaju*. The growth of credit insurance is generally measured to be a nineteenth century phenomenon, but in 1648, the English merchants sent money from Gujarat to Sind by *hundis* and insured them against the risk of non-payment. The function of credit practices and instruments was to create existing money circulate more efficiently and take its lay when it was not physically present. To that extent, the scope and mass of credit were defined through the volume of metallic money. The sustained influx and absorption of valuable metals, particularly silver, provided the monetary foundation upon which the credit building rested. With the development in money economy aiding specialization in commodity swap and multilateral payment, credit also grew in proportion. Interest rates signified this reciprocal connection. In the second half of the seventeenth century, when the

circulation of money reached a point where it exceeded the demand for commercial capital, interest rates fell. The lowering of the cost of credit helped investment and further broadened the parameters of monetized swap and business operations.

TECHNOLOGY AND ECONOMY

Agriculture

It is hard to understand today that Indian agriculture, with the long introduction of contemporary technology was in quite a dissimilar location in the earlier era. In the largest the agricultural technology of Mughal India was determined to through the prevalence of peasant cultivation. The peasant undertook manufacture with an extraordinary combination of superstition with knowledge, rude equipment with ingenious devices. The result was quite creditable to him. Henry M. Elliot, the great historian, who in 1844, had this to say on the Indian technique of agriculture:

- Of the operations of this easy plough, Dr. Tennant...observes,: ‘Only a some scratches are susceptible here and there, more resembling the digging of a mole than the job of a plough;’ yet this prejudiced and superficial observer remarks in another lay that the standard produce of the Province of Allahabad is fifty-six bushels of wheat to the English acre: since if these ‘scratches and diggings of a mole’ could through any possibility produce double the standard of the scientific cultivators of England. He had also forgotten to remark that the drill, which has only within the last century been introduced into English field husbandry, and has even yet in the northern countries to combat several native prejudices, has been in exploit in India from time immemorial. If he had only reflected on this single information, he would have saved the poor Hindus from much of the reproach which has been therefore lavishly heaped upon them through Mill and his other blind followers.

To this short and effective catalogue of Indian agricultural practices one may add dibbling, that is the dropping of seeds into holes driven into the ground through seals, a way mentioned in relationship with cotton farming through Amanullah Husaini in his *Ganj-i Badawurd*, an early seventeenth century tract on agriculture. In the peasant’s equipment, the exploit of iron was minimal and wood predominated. There is small doubt that the efficiency of the wooden implements was greatly affected through the minimal exploit, or even virtual absence of iron. All of them would have functioned bigger with the exploit of iron screws, hinges, clasps, etc. The lack of exploit of iron was, though, only because of costs. Although India produced good iron, its price at in relation to the 1595

is estimated, in conditions of wheat, to have been three times what it was in 1914. This was enough to inhibit its exploit through a peasantry difficult-pressed for possessions, and, possibly, often unable to uphold a blacksmith, in addition to the village carpenter.

Introduction of New Crops

The Indian peasant cultivated a extremely big number of crops for both the harvesting seasons. Some countries could have compared with Mughal India in the great multiplicity of and diversity of products of the soil. A significant point to note is the capability of Indian agriculture to accept new crops, which it displayed strikingly throughout the seventeenth century. The extension of the farming of tobacco, received from the New World, was rapid; its farming began on the western coast soon after 1600, and the crop was being cultivated in approximately every section of the Mughal Empire through in relation to the 1650. The other crop to be acclimatized was maize. It was extensive whispered that maize was introduced in India most throughout the nineteenth century. But P.K. Gode has recognized the subsistence of maize farming in seventeenth century Maharashtra, and under its usual name *makka* it was listed in the middle of the crops assessed for revenue since early since 1664 in Eastern Rajasthan.

Horticulture

The seventeenth century was also a era of considerable innovation in horticultural practices. It was not only that sure fruits, in the middle of which the pineapple was pre-eminent, were introduced from the Western Hemisphere. There was an long application of grafting with significant results for the yield and excellence of sure fruits. Grafting is an old practice, recognized in classical antiquity and in ancient India. It was mentioned since the way of propagation of several fruits in medieval Persian tracts on horticulture and agriculture. Yet one should recognize that grafting is not a single practice but comprehends a number of dissimilar ways, namely, tongue grafting, face, crown, deft, saddle and root grafting, and veneering, inarching and inlaying. It is so, not ruled out that what was diffused in the seventeenth century was not basically the principle of grafting, but specifically new ways of giving effect to that principle. For the coming of these new ways there were two separate channels: the Mughal court and nobility, convinced through the Persian and Central Asian horticultural customs, and the Portuguese, with their roots in European horticulture. Jahangir tells us that the sweet cherry was not establish in Kashmir before its conquest through Akbar; his offical Ali Quli Afshar brought it from Kabul and propagated it through means of grafting. Through the similar means he increased the farming of apricots; and, while the Kashmir mulberry did not

yield an edible fruit, this had been obtained from grafted mulberries. Sadiq Khan, after referring to this earlier experiment, adds that throughout the reign of Shahjahan the practice of grafting became extremely widespread; and since a result of its application, the excellence of the three oranges, namely, the *sangtara*, *kaunla*, and *narangi* was now greatly improved.

It is singular that the grafting of mango is not mentioned in Mughal-era texts. It is true that Amanullah Husaini, script presumably in Jahangir's time, says that the similar practices that are prescribed for the peach, etc., are also possible, however not necessary, in the case of the mango; and grafting is elsewhere prescribed for the peach. But the extremely languages used illustrate that grafted mangoes were not then much prized. A further passage in few manuscripts describing the way of mango-grafting in and approximately Murshidabad is quite obviously an eighteenth-century interpolation. In the chronicler's explanation of Muqarrab Khan's great mango orchard at Kairana, boasting of diversities from all sections of the country, and visited through Jahangir in 1619, only easy propagation through seeds is mentioned. It is probable that it was only when inarching was applied that grafting proved successful. The well-known grafted diversity, Alfonso, urbanized through the Portuguese on the western coast, is mentioned through Niccolao Manucci, in relation to the 1700; and it is sure that this is not the earliest reference. It would therefore seem that at least one grafted diversity of the mango began to be cultivated throughout the seventeenth century, the impulse for this coming from the Portuguese.

Sericulture

India has not been deficient in silk-producing insects: The tasar and eri silks still flourish. But the true silk, produced through the worm feeding on the mulberry worm, was not cultivated in ancient India. The earliest reference to sericulture proper in India is establish in Ma Huan's explanation of Bengal. The well-known Moroccan traveller Ibn Battuta, script of Bengal in few detail a hundred years earlier, has no reference to silk, therefore that the introduction of mulberry silk in Bengal can be assigned with few certainty to the intervening era. It is not sure whether Bengal received true silk directly from China, the house of that fibre or from Iran, where sericulture particularly flourished throughout the 13 and 14 centuries under Mongol patronage. After Ma Huan the manufacture of true silk in Bengal is continuously attested through subsequent authorities, down to the 17 century when Bengal appeared since one of the great silk exporting areas of the world. As sericulture was a peasant-industry, its growth in Bengal brought the peasant increasingly under the power of extensive aloofness and even international market.

Irrigation Technology

Big level irrigation in sixteenth and seventeenth century India was of two types:

- Tanks created through embankments, from which canals of relatively short lengths would run to carry overflow for agricultural purposes; and
- Extensive canals taking off from undimmed rivers and traversing fairly extensive course.

Those of the first type were most establish in the Deccan and Central India, and followed the rows of traditional Indian construction, being mainly the job of Hindu rulers and chiefs; the latter were mainly establish in northern India, and exhibit Central Asian and Iranian powers; they were entirely laid out through kings and nobles. The account of the Madkal Lake in Dharwar district created through the Vijaynagar emperors in the fifteenth or sixteenth century illustrates the massiveness of construction that could be attempted in structure irrigation works of the first type. On the other hand, few of the canals exhumed through the Mughal rulers were extremely extensive and impressive works. Shahjahan's Nahr-i Faiz, rejoining the Yamuna at Delhi, was in excess of 150 miles extensive; his Shah nahr likewise serving Lahore, a small less than 100 miles. Both these canals took off from the parent rivers secure to the hills where the river-channel was firmly fixed; none of the canals drew its water with the aid of a dam at its head, therefore that those which took off in the plains could not have been certain of continuous supply of water. Further, the Mughal canals in the plains tended to flow like rivers and drains, below the stage of the nearby country. Any water drawn from them or their distributaries had so to be lifted out, and not obtained through basically opening the sluices. Section of the objective of the Mughal emperors and their nobles in structure canals was to bring water to their orchards and gardens.

Persian Wheel

Another and distant more significant addition was the Persian wheel. This device, which in the shape of a wooden machine, represented a notable instance of pin-drum gearing, was almost certainly an importation of the thirteenth or fourteenth century. Through the sixteenth century, when it was enthusiastically called through Babur, it had become the peasant's principal means of water-lift in the Indus and trans-Jamuna areas. To these limits it was to remain confined until the latter section of the nineteenth century, when with the coming of the metallic Persian wheel, the device spread to several other sections of the country. In the Persian wheel, while the chain creates it possible to raise water from few depth, the gearing mechanism enables animal domination to be employed and the speed of the movement of the chain properly controlled. The bucket chain was of double rope to which were tied wooden strips carrying earthen pots to include and discharge water.

The gearing mechanism was entirely of wood, the animals turning a horizontal pin-drum, or lantern wheel carrying the chain at the top of the well.

In contemporary works on ancient India the exploit of the 'the Persian wheel' is often assumed to be of extremely early date, however A.L. Basham does express few reservation in relation to the it. The references in the literary sources are, though, vague that although they set up that a water-raising device recognized since *araghatt* or *ghati-yantra* was in exploit at least as the time of Christ, and that this involved successive discharge of water from earthen pots upon the motion of the wheel. The chain of pots arrived through the sixth century, when it is mentioned in an inscription and, in the after that, through Bana. But there is no proof of gearing: its absence may be seen in the Mandaur freezes. In view of all this, the case for assigning the introduction of the geared Persian wheel in India to the era of the Turkish conquests and the centuries immediately following would look unassailable. We are, so, well entitled to speculate on the economic consequences that flowed from its introduction and generalization in the Indus area.

Abul Fazl, script c. 1595, says that the Punjab was unrivalled in the prosperity of its agriculture mainly of which was based upon irrigation from wells. A hundred years later Sujan Rai Bhandari says of the Punjab that mainly of its farming depended on the rains. Inundations or canals were, so, not significant factors in its agriculture, contrary to what one would think of since natural today. This would mean that any improvement in the mechanism of raising water from wells, like the Persian wheel, was bound to have considerable effect on the extension or growth of farming in the Punjab. The presumption that the Persian wheel did have such an effect also creates intelligible a custom preserved through Sujan Rai. Punjab had been a desolate area, with settlements in a some pockets, and these were also harried through Mongol raiders. But throughout the 15 century a big-level reclamation took lay, its progress in the Upper Bari Doab being especially called, perhaps because the author himself belonged to the region. Sujan Rai did not, of course, attribute this growth to the Persian wheel, but we can now possibly quite plausibly see it since a biggest factor behind this phenomenon.

Textile Technology

There is proof that the two significant instruments for ginning and cleaning cotton, namely, the wooden worm-worked roller or gin and the bow-scutch had approach into exploit much before the Mughal era. At Ajanta Cave I there is a panel of frescoes showing women at job, one of whom is working on the *charkhi*, however the first textual reference to it is only in an eighteenth century lexicon, *Bahar-i Ajam*. There is a account of its exploit in a Persian statement from Bengal of a later

date but within the similar century. For the bow-string device the references are more definite and continuous, going back to the Persian poet Akhsikati, and there are possible references to it in two Sanskrit dictionaries, *Vaijayanti* and *Abhidhanachintamani* of in relation to the similar time. Yet even through the seventeenth century, the bow-string was not the sole device for carding cotton in India; the older way of beating it was mentioned face through face with it in an English commercial statement from Gujarat, of 1666. No mechanical transform in these devices can be traced except for the information that at few strange era, in a little locality, the *charkhi*, in the vicinity described *belna*, came to be driven through water-domination. The innovation being purely regional had no scrupulous economic significance, but the exploit of water-domination in the similar locality for driving two other significant mechanical devices will call for notice later on.

Spinning Wheel

The first textual reference to the spinning wheel is establish in the metrical history of the Delhi Sultanate through Islamic, who wrote his job in 1350. It was an ancient Chinese invention, which looks to have made its method gradually to India. The first illustration of the spinning wheel occurs in a Persian dictionary written in 1469 in Malwa. India, though, never came to know either the multi-spindle wheels, illustrated in China from 1313 onwards, or the U formed flyer rotating approximately the spindle attached to it in Europe through c. 1480 or, again, the connecting rod and treadle, urbanized in Europe through 1524. But, to go through the proof of Mughal miniatures, throughout the seventeenth century the Indian spinning wheel seems to have been furnished with the crank handle, which in Europe too definitely seems only through 1524. It can easily be seen that the handle immensely increases the efficiency of the spinning wheel.

Looms

The Indian weaver's loom, with its horizontal frame, and foot-treadles to manage the shedding mechanism, is illustrated in seventeenth century paintings of the saint Kabir at job. It is almost identical with the ordinary loom urbanized in Europe through the thirteenth century. Its first exploit in India is attested through the Malwa dictionary of 1469 presently mentioned. Such a loom was practically incapable of further growth, in therefore distant since easy or tabby weave was concerned, until the coming of Kay's flying shuttle in the first half of the eighteenth century. This at least revolutionized the whole mechanism and opened the method for the automatic domination-loom. Where varied growths could happen were the looms used for fancy or intricate weaves, involving threads of several colors both in the warp and the weft. Attract-looms had been invented in

antiquity in China and the Transitional East in two perhaps divergent shapes. While we know that figured silks, cottons, and brocades of the highest excellence were woven in India throughout the seventeenth century, there is no proof of the exploit of attract-looms. Even in 1800 the Dacca weavers wove flowered cloth on the ordinary horizontal loom; they laboriously counted and lifted jointly suitable numbers of the warp threads, by a bamboo stick, for each operation of the shuttle. The loom used to weave patterned shawls in Kashmir cautiously called through William Moorcraft and George Trebeck in 1822, again lacked any characteristics of the attract-loom, the driving of the woof by the warp to make patterns being done in a manner akin to embroidery.

There is a view that the production of Indian figured silks is a relatively recent importation from Persia, but no direct documentary proof is accessible in support of the view. Though, in 1679 Master Streynsham observed at Ellur the production of carpets on upright looms with colored woollen weft-threads woven in accordance with patterns set on paper; and he was told that the industry had been recognized there a century earlier through Persian immigrants. Importation of Persian weaving devices and techniques throughout the Mughal era is, so, quite likely. In any case, it is beyond doubt that the Indian looms and the craftsmen were through now sufficiently equipped to “exactly imitate the nicest and mainly beautiful patterns that are brought from Europe.”

Dyeing and Cloth Printing

The two vital ways of the multi-colour or pattern dyeing in India, namely, the application of resists to confine colors to patterns and of mordants to take colours, are called in seventeenth century explanations. Printing blocks might have been used to apply the resists and mordants as early times; there is proof for this from Egypt and Iran of third-fourth century A.D. Whether the mordants and resists were applied through painting or through printing, they gave distant bigger results than the easy colour-printing from wooden blocks which became popular in Europe in the seventeenth century. The latter had, though, an obvious advantage in that it saved time and cost, especially if the cloth getting the pattern was not fine or of high value.

It is singular that there should be practically no proof for cloth-printing in ancient Indian literature. Moti Chandra discovers the word *chhimpaka* for a female calico-printer and *chhipa* for a calico-printer in a 14 and 15 century source respectively. The term *chhapa* for calico-printing occurs in Malik Mohammad Jaisi. In the *Bahari Ajam*, *chhapa* is said to be a Hindi word for the printing-block carried only recently in Persian since *chapa*. That the printing-block was being used for direct colour impressions on cloth is recognized through what Jean de Thevenot says in his explanation of Agra. While noticing the similar procedure in Isfahan, he says significantly that such cloth used to approach there from India. The primacy of India in cloth-printing at this time is suggested also

through the exploit of the word *chit* for calico printed in Isfahan itself. Tavernier creates it clear that in his time calico painting was a little localized industry, while it was the printed calico which was produced in big quantities for the internal since well since foreign markets. Irwin might be right in his suggestion that calico-printing was a comparatively late arrival, coming perhaps from Persia, but the arrival was not since late since he suggests, as it looks to have been practiced in India in the 14 century at any rate. Through the seventeenth century the practice had become therefore long that India now emerged to be the house par quality of all printed cloth, even that when viewed from Iran, from where India might have originally borrowed the technique. The transform in the quantity of clothing which looks to have occurred few time flanked by c. 1000 and 1500, necessity surely be attributed at least partly to the spinning wheel and the bowstring, presently since the other transform, as 1850, has been due to the contemporary mechanization of the spinning and weaving industry.

This is significant in itself; but there are other characteristics of the matter to believe since well: the expansion of cotton farming would mean an expansion in the region of a non-food, essentially market crop, and, so, in the volume of commodity manufacture within the village. Such a procedure fits in with the view ventured on other grounds, that an extension in commodity manufacture seems to have taken lay throughout the 13 and 14 centuries.

Land Transportation

The Indian transport organization showed two surprising lags, which it did approximately nothing to create up throughout our era. For carrying heavy loads in excess of short distances, no exploit was made of wheel-barrows; and for conveyance in excess of longer distances, horse-domination was not employed to drive carts or carriages. The wheel-barrow, which substitutes a wheel for the front man carrying or stretcher, emerged in Europe only in the late 12 or in the 13 Century, while in China it has been traced back to the 3 Century. Its efficacy for hauling little loads, particularly in structure construction, should have popularized it in the Mughal era, which has such big edifices to its credit. Yet depictions of construction locations in Mughal miniatures illustrate only holds, but never wheel-barrows.

Horse Drawn Vehicles

Equally surprising is the absence of horse-hauled carriages. The collar-harness, which emerged in Europe in relation to the beginning of the 10 century, after a much longer history in China, immediately made the horse an efficient draught-animal. Though, whereas in earlier times

horse-driven chariots were a significant unit in Indian armies, they seem to have gone out of exploit well before the appearance of the horse-carriage in Europe; and they did not return. Carts and carriages in Mughal India were pulled approximately exclusively through bullocks; and European travellers expressly spot the information that horses in India were not used for draught purposes. Chariots, even for princely conveyance, were pulled through bullocks, the horse-drawn chariots of Akbar being an obvious exception. That the Mughal artists had never seen a horse-carriage is shown through the method in which, when described upon to depict the chariots used through the heroes of the *Mahabharata*, they faithfully reproduce the yoke of the bullock cart, therefore revealing their total ignorance of the collar-harness. The only effort to have the European horse-driven coach built in India seems to have been made through Jahangir who, for his own exploit, had an exact replica made of a coach obtained from England. Jahangir defines the coach since *rath-i tarji Farang-i Angrezi*, “the English-European approach chariot”. It was pulled through four horses. But the novelty looks soon to have worn off, however horses were used later to pull some gun-carriages of the imperial artillery.

It is so, sure that the *ekka* and *tonga* are both post-seventeenth century innovations; and Mughal India totally lacked the cheap and quick means of passenger conveyance that these could have furnished. Bullock carts therefore constituted practically the sole shape of wheeled traffic in excess of the superior section of India. It is noteworthy that while spokes were put on the lighter chariots, the bullock-carts had wheels of “solid timber,” it being apparently whispered that this made the wheel stronger however heavier.

Mughal Roads

In learning Mughal roads, one necessity always stay in mind the information that there were few essential variations in the Indian and European conceptions of what a good road should be like. But, speaking usually, since Tavernier tells us, “the manner of travelling in India” was “not less convenient than all the arrangements for marching in comfort either in France or in Italy.” The ideal Indian highway was a broad avenue with secure ranks of trees planted on either face, wells to furnish water to travellers at convenient distances, the distances marked through towers, and *sarais* or inns at the end of each day’s journey. The great imperial highways approximated in varying degrees to this ideal.

What the Indian roads mainly lacked was attention to their surface. “In these countries here,” English Factors accounted in 1666, “are no beaten roads or mending of highways.” Carts could not be used in mainly sections in the rainy season, for the roads were reduced to mud; and the first cart to be used after the season had to cut the tracks anew with their wheels. But there were still few

exceptions to this neglect. In some stretches roads were cut by solid rock to create cart transport possible. This was done, for instance, in the Khyber pass; on the imperial road crossing the Sindh Sagar Doab where the road was paved with “great masses of a difficult bluestone well fitted in;” and on the Daulatabad- Elora road, where a 4-foot high wall ran beside the edge of the road for protecting wheeled traffic. There were of course, no metal led roads at that time.

Bridges

A prominent characteristic of the Mughal road organization, again intended most to facilitate cart transportation, was the construction of stone and masonry bridges on the largest roads. It will not be possible to enumerate here even the more significant bridges whose subsistence was recorded in modern explanations or which have been preserved till our own time. These bridges spanned, besides the smaller streams, such rivers since the Degh, the Gomati and the Sindh. On the superior rivers, like the Jamuna, the best that could be done was to build bridges of boats, the architectural technology of the time being apparently unable to effort masonry construction on the requisite level. A notable fault in the Mughal masonry bridges, which were otherwise extremely strongly built, was a constant failure to allow for a sufficiently wide passageway for water. It had extensive been held in Europe that a width of the pier equal to $\frac{1}{4}$ or $\frac{1}{6}$ of the arch-span was quite adequate from the point of view of the strength of the bridge. In information even this ratio was establish to provide too big a periphery of safety, and was in the 18 century reduced through Jean Rodolphe Perronet, the French engineer, to $\frac{1}{10}$. In India, on the other hand, the view prevailed that the Pier-width necessity not be less than the arch-span. Since Cunningham repeatedly points out in his descriptions of the Mughal bridges, the huge piers and narrow arches always tended to subvert the bridge through driving the channel to new course, out-flanking the bridge, and, so, often compelling a subsequent extension of the bridge, which, again, merely met the fate of the original construction. It is possible that the real cause for this faulty design place in the fear that an arch with a relatively longer span would either have to be given a extremely big rise or would be unsafe. The latter fear was almost certainly groundless, but the information remnants that it was not overcome, in spite of experience; and huge piers sustained to thwart the longevity and utility of the bridges.

Navigation

Quite in contrast to the mainly static circumstances of land transport, the seventeenth century saw considerable changes in the Indian shipping industry. At the beginning of the century, the

principle kind of sea-going Indian ship was described 'junk' through the Europeans. The junks, which counted in the middle of them few of the major ships in the world at the time, had immense largest sails and were intended to take the best advantage of favourable winds. This fitted them for voyages crossways the Arabian Sea and the Bay of Bengal, where navigation was governed through the monsoons; but it also rendered them hard to manouvre. In the middle of the instruments used on Indian ships was the astrolabe, the well-known instrument for determining time and latitude through sighting the location of the sun and stars. It is not clear if it was a variant of the mariner's astrolabe, which was invented in Europe in relation to the 1535, or the astrolabe proper. It is almost certainly the latter. An instrument held in the hands of a seaman in a painting through one of Akbar's court-artists may perhaps be a magnetic compass, but it is extremely hard to be certain of its nature. Also in exploit were mariner's cards, "lined and graduated orderly", to plot the ship's course. These instruments were not through any means absolute through 1600 in European navigation, but they became therefore extremely soon afterwards. Throughout the course of the seventeenth century European ships came to be equipped with an approximately completely new set of navigational instruments, namely, the telescope, perfected in relation to the 1608; gimbals for mooring compasses; Davis's quadrants and nocturnals; Mercator's projection-charts; and lanterns.

Shipbuilding

When we read the English commercial records we gain the impression that for mainly of the first half of the seventeenth century, the Indian ship-structure industry sustained on the old rows, while the Portuguese on the western coast organized a lucrative industry, structure ships of European design for Indian customers. In 1636 it was idea that even little pinnaces of 100 or 200 tons would cost in England only a third of what they would cost in India to build. But then took lay what is practically an unchronicled revolution in the Indian shipbuilding industry. In 1668, the English factors, urging that the English East India company build its ships at Surat, declared that "if any shall substance they may not have that form, or be therefore profitable for storage and goods, since our English ships are, we answer that these carpenters are grown therefore expert and masters of their art that here are several Indian vassals that in form exceed those that approach out of England or Holland." Three years later, John Fryer observing at Surat more than a hundred sail of "good ships," including few "three or four Men of War since large since Third Rate ships," ascribed this to few indigent English shipwrights having taught the natives the new art, a type of legend which is usual in cases of such technical imitation. J. Ovington script on his visit in 1690- 93, says enthusiastically that "the extremely ship-carpenters at Surat will take the Model of any English Vessel, in all the Curiosity of its Structure and the mainly artificial Instances of Workmanship in relation to the it,

whether they are proper for the convenience of Burthen, or of quick sailing, since exactly since if they had been the first contrivers.”

What is motivating in this example of copying is that sure ways of Indian carpenters proved to be equal or larger to those of the European shipwrights. It was establish that the Indian way of riveting/ ribbeting planks one to the other gave much greater strength than easy caulking which, jointly with oakum, pitch and tar, was no longer needed; that water tanks made of wood-planks through Indian carpenters were since good since casks, which constantly required the attendance of a cooper, whose art remained a purely European possession; and that a lime compound or *chunam* dabbed on planks of Indian ships provided an remarkably firm defense against sea-worms. For the haulage of ships from water to land for the purpose of carrying out repairs, the crab and tackle were used in a method that won an English traveller Thomas Bowrey’s admiration.

This advance in Indian ship-structure industry, extra ordinary since it was, did not though do absent with the lag flanked by European and Indian shipping. Essentially, while they succeeded in having the similar types of ships, the Indian navigators could not acquire the ability and instruments of their European counterparts. An Indian lexicographer, script in 1740, recognizes that the telescope was a pilot’s observational instrument; but no effort was ever made to production telescopes in India. The common deficiency in navigational instruments is well shown in a plea made through the English authorities at Bombay in 1677 for shipping stores to be sent from England, it being stated that these “are not only absolutely necessary, but not there to be procured, since compasses, lantornes, pilots instruments, log rows, saile, needles, and the like, the over plus of which we can at any time sell to advantage”. There was a deficiency too in regard to the excellence of iron materials, whether nails or anchors; the latter were a consistent thing of import from Europe. It was, so, inevitable that Indian ship-owners should often turn to Europeans, particularly Englishmen, and employ them to command and pilot their vessels.

Artillery

In many methods artillery represented the highest attainments of industrial technology throughout the sixteenth and seventeenth centuries. While the production of cannon was then the real “heavy industry,” on the handgun were lavished all the fruits of the rising mechanical sophistication attained throughout the era. Contemporary artillery was most brought to India, on the one hand, through Babur, who had received it from Persia, and, on the other, through the Portuguese early in the sixteenth century. Proof has, though, now been adduced of the attendance of cannon throughout the latter half of the fifteenth century.

Handguns

In spite of the great interest of the subject, the ways of production of firearms in India have yet to be studied with due attention paid to the genuine surviving specimens from the Mughal era. To take the handgun first, its crucial section may be said to be its propelling mechanism. In the earliest guns the charge was fired through applying a “match” or burning rope or cord to the priming pan which communicated by the touch-hole with the barrel into which gun-powder had been previously rammed. Throughout the 15 and 16 centuries the match-lock urbanized in Europe through first providing for a pivoted lever for holding the “match” and then converting it into an arm of a lever controlled through a spring. Therefore poor has been the revise of our Indian proof that we are not able therefore distant to trace the growth of the match-lock in India. It is not even sure whether the “arquebuses” establish in wide exploit in India in 1640 and condemned through Fray Sebastian Manrique since “poorly made” and “awkward arms” were true match-locks or mere shapes of handcannon without locks. Though, miniatures in the copy of the *Akbarnama* prepared for Akbar’s own library illustrate the muskets pretty distinctly since true match-locks.

In any case, Abul Fazl, script in 1595 creates a report which illustrates not only that match-locks were being manufactured through Akbar’s arsenal, but that it was also turning out a lock in which the match was done absent with: “Owing to the practical knowledge of the World-Emperor, they have therefore fashioned a gun that, without the exploit of the ‘match’, but with presently a slight movement of the *masha*, the gun is fired and the pellet discharged.” Such a gun could either have been a wheel-lock or flintlock. As the latter had not yet emerged in Europe, it was almost certainly the wheel-lock, which was an Italian invention of in relation to the 1520; in this the spring released through trigger caused a wheel with serrated edge to revolve against a piece of pyrite and therefore send sparks into the priming pan. In spite of its early date, it was too delicate a mechanism to obtain wide exploit. The evident success of Akbar’s arsenal in producing a wheel-lock necessity then be noted since a significant attainment.

Handguns

The early decades of the seventeenth century saw the appearance of the flint-lock in Europe, where it slowly, but not totally supplanted the match-lock throughout the latter half of the century. Its first appearance in India is hard to date, but in 1623 it excited the great curiosity of the Zamorin of Calicut, for “their guns have only matches.” The subsequent progress of the flint-lock in India, again, is not simple to trace, there being no direct reports on the matter in our sources. It would seem that

Indian guns began to be equipped with flint-lock throughout the latter half of the seventeenth century. But the foundation for this view is an inference from rather indirect proof. Bernier says that Indians sometimes imitated perfectly articles of European production, and then adds that “in the middle of other things, the Indians create excellent muskets, and fowling pieces.” This report made in 1663 at Delhi, is quite at variance with that of Manrique, who had few twenty-three years earlier establish Indian ‘arquebuses’ to be ‘poorly made.’ One is tempted to think that within this era in relation to the twenty years, Indian smiths had been successful in imitating the flint-Lock, and therefore attaining respect for their products. It is, though, quite possible that the principal weapon in exploit in Indian armies still remained the match-lock.

The barrel of the gun posed another problem for the gunsmith, as while the barrel had to be extremely strong to stand up to the explosion within it, great accuracy had also to be provided with regard to its bore and alignment. It is motivating to discover that Akbar’s arsenal adopted the similar technique of creation the barrel, since was adopted in Europe. That is, it too abandoned the way of creation the barrel merely through bending and joining the edges of a sheet of iron flattened through hammering, which was establish to be defective, even when the bent sheet was twisted to one face. Instead of this, the barrel was now made through receiving rolls of flat iron, twisted approximately with one edge running in excess of the other, welded through heating and then bored from inside. This also remained the carried technique in Europe until the eighteenth century. The longer barrels, which were urbanized in relation to the transitional of the seventeenth century in Europe necessitating the exploit of rests for muskets, began to be made in India in relation to the similar time, as musketeers are now said always to have accepted rests with them. Early eighteenth century miniatures regularly illustrate an aristocratic sportsman resting the extensive barrel of his gun upon the shoulder of one of his retainers, and taking aim with it in this location. Of this human substitution for the wooden tripod, there were no precedents in European technology.

Cannons

In the production of cannon, two trends were noticeable in the Mughal era. The first was to create extremely big pieces. This was possible since extensive since they were cast of bronze. The way of casting such cannon pieces was apparently same to the one employed through the Ottoman Turks throughout the transitional of fifteenth century, a way which lasted in Europe until in relation to the 1750. Babur’s gun-founders cast cannon through precisely the similar means. Whether the procedure of bronze-casting was further improved in India or the alloy used was bigger, it would seem that through the end of the sixteenth century, the heaviest guns in the world were being cast in India, the climax being reached with the well-known *Malik Maidan* cast in bronze at Ahmadnagar,

with a length of 13' 4", diameter at the muzzle, 5' 5", and diameter of the bore, 2' 4 ½". Jahangir says it threw stone balls weighing ten Indian maunds. But such heavy guns were already obsolete through 1600. Not only did they lack mobility, but with their big bore and difficulty in positioning them, they lacked accuracy since well. Moreover, bronze was expensive and wore off more quickly than iron. Since a result lighter cannon made of iron began to gain much greater currency in Europe throughout the seventeenth century. That even in India such realization had dawned is shown through claims made on Akbar's behalf that he paid great attention to light cannon.

But the difficulties of casting big pieces of iron were never overcome in India. Even with bronze the mould had to be fed from a number of furnaces, a procedure which was criticized through Jean de Thevenot in 1666. Indian iron cannon therefore usually consisted of wrought iron bars or cylinders held jointly through rings. In this respect, no advance looks to have been made in the seventeenth century. That the Mughal authorities were conscious of this weakness is shown through their employment of big numbers of European gunners, and import of European cannon-pieces. In 1666, on orders from the Imperial Court the English and Dutch were asked to recruit "five gun founders and two engineers or pioneers" for imperial service, it being stipulated that they were to be "extremely experienced practical men," while the pay was to be "inviting". Though, there is no proof that any gun-foundry worked on European rows was ever actually recognized in the Mughal empire.

In another branch of the artillery, grenade shells were not in exploit in India, in spite of the information that both in China and Europe they had a much older history. In 1640 they could excite great popular curiosity. In 1648, mortars likewise attracted Shah Jahan's curiosity, although it was established that there were not likely to be of much service to him. The cause for the Indian lack of interest almost certainly place in the information that in the *ban*, or rocket the Indian armies had an alternative weapon of extremely great effect. These rockets were made basically of bamboos, with iron cylinders containing combustible materials; they could also carry light grenades. In retrospect, the *ban* would look to be of great technical interest particularly as the exploit of rockets in contemporary European armies dates from the Congreve rockets of early nineteenth century, which had been directly inspired through the Indian rockets.

Sources of Domination and Fuel

The pre-industrial development of contemporary Europe has often been seen since typified through the rising utilization of non-human sources of domination, particularly of water and wind, to be followed ultimately through steam. Closer scrutiny has extensive recognized that the utilization of water and wind has not been confined to Europe. Both the watermill and windmill for grinding corn

emerged in early medieval Persia and have sustained in exploit until recent times. Both of these are mounted horizontally, and, so, involve no gearing.

Watermills

Whether watermills were introduced into India from Persia since early since the fourth or even the eleventh century depends solely on whether there is any object at all in a report of a late Byzantine historian, Kedernos. But through the seventeenth century, watermills were in exploit in the Dakhin, one of the best-recognized examples being Malik Ambar's watermill at Aurangabad. These were also used in Kashmir. If they did not approach into exploit in the north Indian plains, it was only owing to the difficulty of receiving water to flow with enough force; moreover, since Sir Thomas Roe pointed out, the rivers with their great seasonal fluctuations were mainly unsuitable to the setting up of the mills. And yet the information that technological ingenuity in by water-domination was not lacking is shown through the exploit of water-domination in one little locality, the Hazara district, which place astride a circuit to Kashmir often used through the Mughal emperors. Here, separately from the conventional corn-grinding watermill, a water-driven wooden trip-hammer, described *pekoh*, has been in exploit for milling rice. As the wheel in this case is vertical, it is an significant departure from the horizontal mill. The device was almost certainly introduced by contacts with the border areas of China, where it has had an ancient history. But the water-driven worm worked cottongin of Pokily could not have approach from the similar source, since China did not know of such gins, and it could only be a regional attachment of the vertical wheel of the *pekoh* to the mechanism of the worm-gin.

Windmills

As Seistan, the homeland of the eastern windmill, place therefore secure to the borders of the Mughal empire, it is to be assumed that the windmill was recognized in India at that time. Yet the Seistan windmill was only suited to a country where strong winds blew constantly in one direction, and water since an alternative source of domination was not accessible. It, so, did not spread northeastwards into Afghanistan proper. But someone made an abortive effort to install such a mill at Ahmadabad. This wind mill, recognized in the vicinity since *pawan-chakki*, worked upon "the movement of the wind and the rotation of the curtains." It was a horizontal windmill of Seistan kind. Through 1761 only the millstone had remained, and it was no longer remembered when it had been originally installed.

The windmill could have hardly ever succeeded in India, but it is possible to argue that the watermill should have had bigger success. The horizontal mill could not undoubtedly have competed with the ordinary handmill; but the vertical mill with overshot waterwheel urbanized in Europe would have greatly economized on waterflow. No effort to introduce such a watermill throughout the seventeenth century is recorded; but even here the absence of sophisticated gearing in Indian technical practice would have presented considerable difficulty. Wooden pin-drum gearing was incapable of transmitting greater domination than was needed to rotate the Persian wheel. Therefore unless metal gearing could be produced – and this was not possible, in view of the exceptionally backward state of the Indian iron industry – vertical watermill's or any other mechanism seeking to tap water for substantial domination could hardly have been idea of.

Fuels

Of no less importance than sources of domination, and somewhat same in effect, are the fuels accessible to any technology. A notable disadvantage of Indian technology in the sixteenth and seventeenth centuries would look to have been that, unlike China and Europe, it did not have coal. In 1611, “sea coale” was taken from the English ships at Surat and sent to the Mughal court “for a wonder”. But the curiosity was one which could hardly be imported in big quantities. Why coal was not exposed and mined in India, when surface deposits could have been establish at least in the Bir Bhum and Jharia belts, and why, when it had been in wide exploit in China for centuries previously, no one in India had started looking for it, are questions that are hard to answer. It is possibly possible that the surface coal was of an exceptionally inferior excellence and the localities not those where it could have been put to much industrial exploit. Moreover, deep mining was not practiced in India, therefore that coal mining to any depth would have been quite forbidding, initially at any rate. Diamond mines were not accepted below the water table, and were no deeper than 12 or 14 “spans” at Kollur, and 10 and 12 feet close to Gollapallu, in Golkunda. The salt mines of the Salt Range had excavations 200 or 300 yards “deep”, but the depth was horizontal, the mines being in the nature of caves dug at the faces of the hills. But the lack of availability of coal was only a grave potential disadvantage; it could not have had much relevance to modern technical progress, because even in England coal did not begin to replace charcoal in the biggest industrial procedures until after the end of the seventeenth century.

Metallurgy and Chemistry

Zinc

If one wishes to begin with the credit face of Indian metallurgical practices, there is something that one can offer. Zinc was being produced and in accessible in India, since in China; however the procedure could be undertaken in Europe only throughout the 18 century. Abul Fazl actually mentions the Jawar or Zawar zinc mines in Rajasthan, now therefore familiar. It is possible that Manucci was thinking of zinc alloys, when he wrote that in India few musical instruments were made of “refined metals not employed in Europe.” The Indian capability for handling zinc alloys is well illustrated through the familiar Bidri ware. There is few doubt since to when exactly the ware began to be manufactured in India; no specific reference to it has been traced in sources of the Mughal era, but Heyne gave a account of it in 1817. Indian ways of soldering were also establish to be extremely effective; and Thevenot noted that the Indians had “a method” of working gold upon agates, crystals and other brittle materials “which our Goldsmiths and Lapidaries have not.”

Iron

In regard to iron, India has been fortunate in the excellence of its surface ores. It had what was reputedly the best ore in the world, from which the ‘Damascus’ steel was obtained. This was mined close to Indur in Andhra. Steel was in information exported to Persia and other countries. The Indian steel was crucible-cast, the procedure being called through two seventeenth century English writers. Even after the transitional of the nineteenth century the in the vicinity smelted Gwalior and Narwar iron was deemed soft and malleable and regret was expressed in excess of its impending disappearance, owing to the rising shortage of wood for charcoal and competition from “the cheaper and more brittle English iron.” Through the end of the Mughal era, the essentials of the manufacture of cast iron had also begun to be understood, for Alexander Hamilton, visiting Orissa in 1708, establish that “iron is therefore plentiful that they cast Anchors for ships in Moulds, but they are not therefore good since those made in Europe.” It is not clear how the iron came to be cast in Orissa, and whether ‘blast furnaces’ had been built there. Almost certainly they were not and their absence may explain the unsatisfactory character of the metal obtained. There is no other proof, either in record or surviving specimens of their products, to suggest the subsistence of blast furnaces in India throughout the seventeenth century. Such furnaces, for one thing, required water powered forges to produce enough blast; and these would certainly have attracted notice, if they had been introduced throughout our era. The failure to produce proper cast iron had a usually retarding effect on the whole progress of industrial technology. Iron guns could not be cast. There was nothing to match

European anchors. In common the quantity of iron accessible since material for fashioning apparatus and mechanical sections remained very restricted.

Chemicals

The location in metallurgy establish a extremely secure similarity in that of chemical industries. Here few advanced techniques represented through lacquer ware, distillation and refrigeration were balanced through failure in a extremely significant sector, that of glass. Lacquer ware was a positive attainment; and it inspired varnish techniques in Europe.

Distillation

The Arabs of early Islam are credited with discovering the procedure of extracting rose-water by distillation. They transmitted their detection to India, presumably with the basis of the Sultanate and the accompanying thirteenth century immigrations. In Mughal India one celebrated detection was that of the *Itri Jahangiri*, ascribed to Nur Jahan's mother; to judge from Jahangir's account, it was the essence obtained from distilled rose-water. Needless to say, distillation also enables one to raise substantially the alcoholic content of wines. Liquor distillation was a widespread industry in Mughal India.

Abu'l Fazl defines three methods of distilling *arq* from sugarcane juice. Liquor was also double-distilled, such being recognized since *do-atisha*. Bernier provides a account too of the 'arac' distilled from unrefined sugar; and the French traveller Abbe Carre tells us of 'arack' distilled from toddy, since we do brandy. The present scholarly view is that distilled liquor is a European invention of the twelfth-thirteenth century, and that the Islamic world until then, and much afterwards, lacked all knowledge of it. Indeed, Abu'l Fazl's account of liquor distillation is treated through Forbes since the first Arabic reference to the procedure. One may then well think that the procedure came here with the Portuguese and spread all in excess of India in the sixteenth century. But the languages of the historian Ziauddin Barani, script in 1357 illustrate that liquor distillation was being practiced in India much before the Portuguese had been heard of. When Sultan Alauddin forbade the sale of wine, the people of Delhi, says Barani, "set up *bhattis* in their homes, made wine out of sugar-cane and then distilled it ". Speaking of an earlier reign, he enthusiastically defines the production of "sweet-scented '*arq*' distilled by the wine-maker's pipe." This would mean that even if alcohol began to be distilled no earlier than the twelfth century and then also in Italy, the detection had rapidly travelled by the Islamic world and reached India through the end of the after that century. Through the Mughal era the technique was honorably and well recognized.

Refrigeration

Coming to refrigeration, the first recognized Indian reference to any chemical procedure of water-cooling is in Abu'l Fazl. He praises Akbar for adopting and popularizing the device of by saltpetre to cool water, before the transfer of his capital to Labored in 1586 enabled him to obtain snow for the purpose. European travellers establish this way of refrigeration widely in exploit in India in the seventeenth century, and significantly sufficient it struck them since a novelty or curiosity. *Bahar-i Ajam* measured it a specifically Indian practice. Here then India might well be assigned precedence in excess of Europe, where freezing mixtures came to be recognized at in relation to the similar time, but snow was still their biggest component.

Glass

The whole growth of the European glass industry with its fine transparent glass and cast or plate glass, on the one hand, and fine lenses, on the other, does not look to have provoked any effort at imitation in India, in spite of the information that European glassware fetched the highest value at the Mughal court. Jahangir records his admiration of European boxes of transparent 'crystal' received in gift, and in excess of fifty years later Prince Shah Alam could not consider that the glass vessels brought from Bombay for him were not of rock crystal. The mirrors used in India were of steel, not glass.

Vital Apparatus and Precision Instruments

Screw

We may begin through considering the screw. The exploit of the screw since a slow-motion device and since a water-raising mechanism, has been traced to Hellenistic texts. But its appearance since a means of fixing metal sections jointly belongs to the beginning or transitional of the sixteenth century, when it was used in European amour. It could now replace soldering, rivets and wedge fittings, all of which had obvious disadvantages. One of the significant factors for the growth of the lathe in Europe was the require to cut proper grooves in the screw. The screw, in its new role, could only have reached India throughout the fifteenth or sixteenth century. But either the screw adopted in India was derived from a primitive European ancestor or had been subjected to much modification in its travels. In 1666 Thevenot called it since follows:

- The Indians of Dehly cannot create a Screw since our Locksmiths do; all they do is to fasten to each of the two pieces that are to enter into one another, few Iron, Copper or Silver wire,

turned Screw wise, without any other art than of shouldering the Wire to the pieces; and in opening them, they turn the Screws from the left hand to the right, contrariwise to ours, which are turned from the right to the left.

Therefore the Indian smiths avoided the exploit of the lathe to cut screw grooves, through the exploit of soldering of wire, at which, they were expert. With this limitation, the screw could not be used since effectively since in Europe. Yet the coming of this new device did symbolize a considerable technological advance, and it would be of much interest to discover out, from surviving specimens of metal-ware of the era, since to where it was applied. The effort to create screws through soldering well shows the Indians' weakness at cutting and drilling apparatus throughout our era. There is no reference to the treadle lathe being used in India. Records and pictorial proof both attest to the bow drill, which might go back in history to Hellenistic times. It was used for cutting sapphires and other valuable stones. An improved drill for cutting diamonds at Surat is, though, called through Fryer. This was driven through men turning a wheel, which rotated, by a driving belt, a 'lesser' horizontal wheel, to which the drill was fixed. The first appearance of the belt-drive in both Europe and India was in the spinning wheel, its exploit in other devices looks to be no older than the fifteenth century in Europe. There is so, strong cause to suppose that the drill called through Fryer was a comparatively recent addition to the Indian artisan's apparatus. But even this drill was through the late seventieth century distant out-distanced through the water-powered lathes and drills of Europe therefore that diamonds from India were now sent to Europe to be cut and returned.

Gearing

The only shapes of gearing recognized to have been employed in India were the right-angled pin-drum gearing, establish in the Persian wheel, and the worm, used in the cotton gin. As gears not only transmit, but manage the direction, and augment or retard the speed of rotary motion, these have always constituted an essential unit in working machines. There was a renewed interest in the exploit of gearing at Akbar's court: Akbar was said to have invented a travelling cart-mill and a machine intended to clean simultaneously a number of gun barrels. These inventions, in spite of their intrinsic interest, did not necessarily involve the exploit of any shape of gearing other than the pin-drum, and did not so symbolize much advance in actual technique.

Crank

The growth of the crank from the crank-handle to easy crank and connecting rod, and then to compound crank, does not look to have occurred in Indian technology, which so sustained to lack any means of converting continuous rotary motion into reciprocator motion. This prevented even the exploit of animal domination for stamping coins, because the stamping mill would be inconceivable without crank and connecting rod. As the Indian mints were described upon to turn out extremely big amounts of coins – an output of since several since 30,000 rupee-coins a day is recorded for the Surat mint in 1647 – the exploit of manpower for stamping them necessity be regarded since therefore much waste.

Piston

The principle of the piston is seen at job in its simplest shape in the syringe. It is possible that the exploit of the syringe in India is of a extremely early date; it is certainly depicted in holy scenes in Indian miniatures of the Mughal era. But there is no proof of any further growth of the device or of its application in productive procedures. Chain pumps, in which the balls on the chain acted since pistons for pushing up the water, could be seen in exploit on English ships visiting Indian ports at the beginning of the seventeenth century. In 1611 Muqarrab Khan “desired out workmen and smith to create him a model of the chain pumps.” But nothing apparently came of this.

Astrolabe

The greatest precision instrument in exploit in the Islamic countries and India had been the multi-purpose astrolabe, which represented an attainment of both the metal and woodworker and the mathematical arts. Seventeenth century Indian astrolabes bear ample testimony to the great accuracy attained in graduation, which is notably more hard when it is circular. As the astrolabes were not only instruments for astronomical observation, but also for fixing time and determining latitudes, their accuracy can be checked through comparing the latitudes. The deviations from the true latitudes are not extremely significant and in other cases where there seem to be big deviations, it is possible that the texts are corrupt. When in 1670 and 1671, Marshall worked out the latitudes of Patna and Hughly, with a wooden quadrant, his latitude was higher than the true one, in one case through 22 minutes, and in the other through 15.

Time Reckoning Devices

Astronomers appearing in Indian miniatures of in relation to the beginning of the 16 century are shown with two other instruments besides the astrolabe, namely, the altitude dial of the ring kind and the sand-glass. While the first indicated unequal hours, the latter was a convenient substitute for several types of water-clocks, which gave equal elements of time. Sand-glass was also in exploit in Aurangzeb's army to determine time; but apparently the less efficient sinking-cup measure also sustained in exploit. What particularly strikes one today is the failure to get excited through the European mechanical clock. Five clocks were incorporated in the middle of the Persian ambassador's presents to Jahangir in 1616; and clocks were later deemed fit articles for presentation to Indian potentates on behalf of European Companies. But, since Ovington observed in 1690-93:

- The Indians have not yet attempted an imitation of our Clock-job in Watches; and may be it is, because they seldom continue their presently Motions for any extensive time, through cause of the Dust that flies continually in the air, which is apt to clog and stop the Wheels. But the Chinese have undertaken to take our Clocks and Watches in pieces, to shape new ones themselves and may be in few time to produce few fresh improvements in those Mechanical Operations.

The mechanical clock, with its refined gearing springs, screws, balances and escapement, symbolizes the concentrated application of a big number of mechanical principles and devices. The diffusion of its production could have led to the wider application of these principles. No less significant would have been the immediate effect of its exploit, for the clock creates possible a distant greater manage in excess of proper division of labour time, through enabling accurate time to be recognized 'at a glance' whenever required. Therefore extensive since the mechanical clock remained an imported rarity, the Indian economy could have hardly derived any advantage of this type from it.

Paper and Printing

Paper

The history of its travels to several sections of the world from the time of its invention in China in the 1 Century A.D., has been the subject of considerable research. The Islamic world received it in the 8 century. The history of its journey to India has been studied through P.K. Gode in an approximately definitive paper. His proof supports Alberuni's report that Indians used script materials other than paper in his time, and the first appearances of paper recorded through him are

practically all confined to the 13 century. Clearly, India failed to obtain paper directly from China; and it was only the Ghorian conquests which forced its acceptance. Through the end of the 13 century Amir Khusrau would refer to paper production since one of the modern crafts; and through the transitional of the 14 century, the material would become therefore cheap that the Delhi sweetmeat sellers were giving their products packed in paper to their customers.

Printing

Before concluding this survey of the technology employed in the previous sectors of Indian economy throughout the Mughal era, I should like to refer to book-printing. Once paper had become accessible to any culture, and the exploit of the ink-stamp generalized, it would be tempting to think that book-printing from blocks was bound to follow sooner or later, even if direct inspiration for this was not forthcoming from any other region. We have seen that block-printing of textiles was widespread in India throughout the seventeenth century. If with all these favourable conditions, India failed to accept printing, the causes for this rejection are not simple to discover. Possibly as suggested, have to take a wider perspective than of India alone, as the rejection is a general phenomenon all in excess of the Islamic world. But it may be said that Ovington's suggestion that printing was not undertaken for fear of throwing big numbers of scribes out of employment assumes too high averages of regard for the common welfare in the middle of the ruling classes of the time. The difficulties of the writing, a scrupulous obstacle to movable kind, were also not insuperable, since was to be proved later.

Nature of Technical Transform in India

In interpreting the results of our survey of the technology of the several sectors of the economy outlined therefore distant, the limitations of our account necessity of course be kept in mind. It has not through any means been comprehensive. Though, on a extremely tentative foundation the following two conclusions would seem to be justified: First of all, there was no inbuilt resistance in the economic organization to technical changes. In sure spheres, such since horticulture and artillery, such changes were encouraged through the Mughal court and ruling class. In other spheres, like ship-structure, a strong competitive challenge led to considerable version, almost certainly induced directly through demands from merchants. Elsewhere again – and perhaps in the main range – technological innovation was adopted through the actual producers and craftsmen because of immediate economic advantage. Such was almost certainly the case with new crops in

agriculture, with the new apparatus and devices in the textile industry, and with the introduction of the screw in metal job and belt drive in the drill. Elsewhere, since in liquor distillation or water-cooling devices, human appetite or comfort was the direct driving factor. In mainly cases the changes required no big investment of possessions, however in ship-structure this was perhaps not true.

But at the similar time, static circumstances seem to have prevailed in a number of significant sectors, where either the immediate advantage compared to investment was not considerable or there was no external challenge. These factors almost certainly place behind the failure to develop metallurgy and sure vital apparatus on rows already charted through Europe and also, quite perhaps, behind the failure to accept book-printing. It does then look clear that while the Indian economy was not closed to innovation and invention, there was no overwhelming enthusiasm for technical transform, which, in retrospect, seems therefore strikingly to spot sixteenth and seventeenth century Europe. This report is one in excess of which, except for the first clause, there would be small dispute. But the moment one seeks the sources of this limited technical inertia, one runs into considerable difficulty. There would be a temptation to see it purely in ideological conditions, and ascribe much to the lack of printing since a medium of diffusion of knowledge. Printing, though, would naturally only diffuse such knowledge since was accessible; and conceivably printing in the seventeenth century might only have caused a still easier dissemination of the minutiae of religious beliefs and superstitions. In spite of much greater attention to technical matters in the Chinese culture and the prevalence of printing, the new industrial techniques from Europe could not after all be implanted there throughout our era. Moreover, there is the further question since to the effectiveness of the links flanked by theoretical and practical technology.

Another factor which may merit consideration is the subsistence of a extremely numerous class of artisans and craftsmen able to live at extremely low wages. Bernier notes that while the Indian artisans were destitute of apparatus, they yet produced articles of the highest excellence, even when these were imitations of European products. The highly dedicated ability of the artisan therefore seemed to serve since a substitute for his apparatus. Pelsaert speaks of a hundred crafts in Agra – “for a occupation which one man would do in Holland passes by four men’s hands before it is finished.” Therefore the extremely numbers of the population of skilled craftsmen inherited from an earlier era would militate against labour-saving techniques, in that the immediate gain from these might be extremely slight or even illusory. A less favourable situation with regard to skilled labour, on the other hand, might have held out much greater stimulus for technical innovation. When we see this partial catalogue of the success of the Indian craftsmen alongside their failure to adopt significant mechanical devices, we observe a contradiction that had also struck modern European observers. They too saw the crudeness of the Indian worker’s equipment and, on the other, the

quality of his product. They naturally tended to see here a triumph of human ability in excess of material equipment. “Numerous are the instances”, says Bernier, “of handsome pieces of workmanship made through persons destitute of apparatus... Sometimes they imitate therefore perfectly articles of European production that the variation flanked by the original and copy can hardly be discerned”. In other languages, there was an enormous supply of skilled labour accessible in India. A “good thing in Hindustan”, Babur had said, “is that it has unnumbered and endless workmen of every type”. The big level of skilled artisans had its natural corollary in low wages: the two phenomena necessarily lived jointly. The workmen difficult-pressed with a barely existence-stage income could not afford apparatus or materials calling for any expense. They, so, tended to compensate for the lack of these through putting in additional labour and application of ability.

An outstanding illustration of this “compensation” is offered through the Indian weavers’ persistence in weaving patterns on their ordinary horizontal looms and therefore ignoring the draw loom, a device extensive used in Iran. The substitution of the operation of apparatus and machines through human labour and dexterity described for an extreme degree of specialization in skills. This implied the division of craftsmen into numerous categories, each concerned with few scrupulous section or level of production. The division into the specialised skills was greatly facilitated through the caste organization, which occasioned therefore much surprise to Babur who observes, “There is a fixed caste for every sort of job and for everything, which has done that job or that thing from father to son till now”. The role that the guilds played in preserving and transmitting skills in Europe was therefore here played through the caste organization. At the similar time owing to the barrier therefore raised flanked by one craft and another, diffusion of techniques crossways the crafts necessity have been correspondingly hard. An artisan, while laboriously following what his father had done before him, might not exploit a device, which, however useful to him, had not been sanctified through acceptance through his caste-peers. This negative aspect of ability, specialization by caste, that is, a segregation of skills – was accentuated through Max Weber in explaining the low stage of Indian craft technology. Morris D. Morris has though challenged this view.

Morris is right, in stressing that the caste has not interposed any effective barrier to mobility of labour in the extensive run at any rate. In the Mughal era, the complaint is never heard of, in the voluminous commercial literature of the European Companies that workers in any ability were scarce because of caste restrictions. The restraint upon craftsmen crossing the sea, mentioned in a statement of 1662 from Madras, loses much of its force when it is measured that the artisans were being asked to migrate from one area to another, that were since much separately since England and Spain. Moreover, castes could transform their recognized professions. Fukazawa cites the case of the caste of tailors in Maharashtra, which throughout the earlier section of the eighteenth century took to

dyeing, while a part of it separated to undertake indigo dyeing. Instances like this are rather exceptional; but this is almost certainly only because the history of castes is therefore ill-documented, and not because such changes did not happen. Whenever the demand for the service of any profession was fairly powerful in excess of an extensive sufficient era to create it advantageous for a caste, or a segment of it, to transform its profession, the transform would almost certainly have always occurred. It would have most involved, possibly, the assumption of a dissimilar traditional origin and the cessation of further marriage-ties with those who sustained with the old craft. It was not, so, any scarcity of skilled labour brought on through the caste organization, but its extremely opposite namely, its plenitude, that constantly inhibited attention to labour and ability saving devices.

This inhibition would have been present whether the artisan was himself a commodity producer, since mainly often he was, or he was subjected in varying degrees to the merchant, therefore extensive since the circumstances of domestic industry prevailed, that is therefore extensive since the artisan worked with his own apparatus in his hut or household. Taking textiles, the biggest craft industry since an illustration, we can see that domestic circumstances were practically universal. Even when the weaver produced for a extensive-alloofness market, he bought his own materials, worked at house, and then took his cloth, made just as to commonly carried specifications, to the market for merchants to buy. This was almost certainly the mainly common practice, being accounted from Lakhawar in Bihar to Thatta in Sind. A modification would be introduced, when a merchant, in order to ensure regular supply, gave advances either in money, or, rarely, in material. This, too, while subjecting the weaver to the merchant, had no effect on how the artisan worked; however if the merchant gave orders for unaccustomed specifications, the weavers might have had to alter their looms, and inquire for money to meet the cost.

Finally, if the material to be worked was extremely expensive, or secure supervision was needed to ensure production to specifications, the artisan could be described up from his house and made to job in the *karkhana*, the employer's own workshop. The English factor Hughes recognized in 1620 a "Cor Conna" at Patna, for winding silk; he employed a hundred workmen and expected to stay two to three hundred silk winders employed all the year round. Obviously, the practice was a general one; and subsequently the Dutch and the English followed it in their "silk factories" in Bengal. The greatest separation from the domestic circumstances looks to have been reached in the *karkhanas* of the court and the nobles where the costliness of material and diversity of specifications for the requires of aristocratic consumption demanded secure supervision. Here then the artisan did not job at house, and therefore the labour of his family was not accessible. As his employer was possessed of considerable possessions, we may anticipate that labour-saving devices and improvements in technique might have been achieved. Yet our knowledge of Akbar's imperial

karkhanas, of which we obtain inestimable details from Abul Fazl's *A'in-i Akbari*, and of the Deccan diamond mines, where domestic circumstances led necessarily to possibilities of technical improvement.

There is no proof that a mere transform from the artisan's "petty manufacture" to employment through the aristocracy or mercantile capitalists had any significance for craft technology in Mughal India. In information one could argue that the availability of cheap skilled labour prevented a true "capitalistic" institution, even when there were single men employing big numbers of persons on wages in productive undertakings. The conception that it was the obligation of the employer to furnish apparatus remained mainly unborn; and this meant that there could be no investment through larger classes in potential machines. It may first be suggested that if intellectual interests in technology had been greater than they were in Mughal India, mechanical improvements could have approach from outside the range of purely economic impulses. After all, Cipolla has argued that contemporary industrial progress "accelerated dramatically when the possessions of craftsmanship were strengthened through the systematic application of scientific principles urbanized through more or less professional scientists". Whether this report adequately explains the acceleration of technical transform in the first but crucial stage of the English Industrial Revolution may be doubted.

It is to be measured whether possibilities of growth of technology were restricted, too, through the dependence of craft manufacture on the huge organization of agrarian use in the Mughal empire. The cities and urban crafts subsisted on the big section of the agrarian surplus that was appropriated through the Mughal ruling class. There was no real swap flanked by city and country. The fortunes of commodity and so, *ipso facto*, craft manufacture, were determined mainly through the extent to which the Mughal organization sustained to function in a stable fashion. Once this organization broke down amidst a severe agrarian crisis, throughout the latter half of the seventeenth century, the level on which urban crafts had therefore distant been pursued in the empire could no longer be continued. Therefore a technical backwardness was further compounded through an urban decline and a possible fall in the volume of craft manufacture. This could not but set the seal on the future progress of technology in India.

TRANSPORT AND COMMUNICATION

Communication Circuits

Communication circuits in India have been in subsistence from extremely early in ancient times. It is often said that the geographical situation of Indian sub-continent has been such that

overland circuit to areas crossways north-west have not been simple to develop. But it is also a historical information that religious and deal contacts flanked by India and the areas crossways north-west did not cease ever in history. Braving the hazards of an unfriendly and hard terrain travellers have kept alive communication flanked by India and these areas as remote past. A some passes in the Himalayas have always allowed traffic crossways them. The Indian mainland has similarly kept intact communication circuits all crossways the sub-continent however the volume of traffic and popular preferences for few have naturally outweighed others. Since we approach to the medieval era in Indian history we notice a some significant economic growths since a result of which the communication organization receives a boost. The old circuits now get a big volume of traffic and new communication circuits also develop.

Towards North and North-West

Delhi and Agra were the largest administrative centres throughout the medieval era from where the state manage was exercised through the ruling dominations stationed in North India. For establishing an efficient communication network, it was so significant that Delhi and Agra remained linked with other areas. Mainly of the circuits so radiated from Delhi since also from Agra, the other significant administrative centre, and extended in all the dissimilar directions in the Indian sub-continent. The circuit from Delhi to the north-west passed by Sirhind, Lahore, Peshawar, Kabul and Balkh. Its course has been delineated in Irfan Habib's *Atlas of the Mughal Empire*. At Lahore this circuit branched off in the south-westerly direction to connect such significant centres since Multan, Bhakkar and Thatta in Sind. From Lahore, since the circuit crossed Sialkot in the north, one branch led-off to Srinagar in Kashmir and from there to Leh and Yarkand and Kashgar. Since noted through Irfan Habib, Leh onwards was a extremely hard circuit to traverse since the circumstances were mountainous and very unfriendly to the travellers. On this circuit flanked by Delhi and Balkh, Kabul was a significant junction from where south-south-west ran the circuit to Qandahar and Farah in the Herat area of Southern Afghanistan which was controlled through the Safavid Empire. Qandahar was also linked with Multan in Sind.

Eastwards and Westwards

The northern plains of India that incorporated the Ganga-Yamuna *doab* and the Ganga basin in the east were provided with a decent network of circuits. This network linked Delhi since also Agra, with the whole stretch of the *doab* area extending upto the deltaic expanse in the east. Extensive before Sher Shah refurbished the communication network connecting Sonargaon, with

Delhi and Attock,, the eastern sections of the country had already set up communication circuits with the north-west close to Hindukush mountains. The Mauryan rulers had recognized a connecting circuit flanked by their capital at Pataliputra and Purushpur in the north-west throughout second century B.C.

In the medieval era there emanated two dissimilar circuits from Delhi that linked Rajmahal and Qasimbazar in the east. These circuits most traversed by the *doab* area beside the course of river Ganga on the northern and southern faces of the river respectively. The one charting its course on the southern face linked such significant spaces since Mathura, Agra, Etawa, Allahabad, Varanasi and Patna. The other one, beside the northern face of the river passed by Bareilly, Lucknow, and Jaunpur to Patna. Beyond Patna it linked Rajmahal and Qasim Bazar and turned southwards to traverse its course beside the sea-coast and connect such spaces since Hugli, Balasore, Cuttack and Puri. Approximately all the spaces were significant manufacturing centres. Many of these were also significant administrative centres under the manage of significant nobles of the era. Jean Deloche defines the circuit from Patna eastwards in the following languages:

- ...Throughout the Mughal era, the imperial highway from Patna, administrative centre which regained to an extent the former glory of Pataliputra, to Rajmahal, short-existed Bengal capital at the secure of the sixteenth century, followed the narrow but convenient passage suggested through nature, via Munger on the right bank of the Ganga. It divided into two branches at the head of the delta following the two largest riverbeds: the Padma to the east, and the Bhagirathi-Hugali to the west.

The eastward circuit was provided with good travel support. The travellers mention regular incidence of *sarais* on this circuit where such facilities since the supply of provisions and cooked food were usually accessible. In cities of object there were many *sarais* with provision of warehouses in few of them for storing the good accepted through traders and even ordinary travellers. The biggest rivers were mostly crossed through ferry service since only the little sized rivers were sometimes provided with permanent bridges. For crossing Yamuna at Delhi a bridge of boats was constructed providing incoming traffic from the east access to the capital city. This bridge discovers an incidental notice in Bernier. Describing the municipality of Delhi he writes that it is located on the “banks of the *Gemina*... and built on one bank only in such a manner that it terminates in this lay extremely much in the shape of a crescent, having but one bridge of boats to cross the country.”

The western section of the country, that is the area denoted through Rajasthan and Gujarat and also Khandesh, was connected with the municipalities of Delhi and Agra by communication circuits that most accepted traffic disembarking at Surat and other ports in Gujarat and was most

collected of the traders and merchants of all the dissimilar types. The circuit connecting Delhi with Surat, the significant sea-face entrepot of Gujarat followed two distinct courses, one by Rajasthan and the other by Malwa and Khandesh. The Rajasthan circuit linked Delhi with Narnaul, Sambhar, Ajmer, Ahmedabad, Baroda, Broach and Surat. There was another equally significant arm that linked Delhi with Agra via Faridabad, Hodal, and Mathura. From Agra this arm bent westwards and passed by such spaces since Fathpur-Sikri, Bayana, Lalsot and Bandar Sindri before connecting with the circuit coming from Delhi a small aloofness east of Bhamunda. The Rajasthan circuit was shorter than the circuit passing by Malwa and Khandesh, but travel-wise was a small hard since it passed by the dry and water-scarce area of Rajasthan.

The circuit traversing Malwa and Khandesh took a southward direction from Agra from where it went to Gwalior, Sironj, Bhilsa, and Burhanpur which was a significant junction for westward and southward peninsular travel. Burhanpur and Surat were linked via two dissimilar branches, one passing by Nandurbar and the other passing by Aurangabad. As Burhanpur was an significant centre on this circuit from where travel in south India usually originated, the Malwa-Khandesh circuit was the choice of travellers deciding to go towards south. A big section of India's cotton and calico deal passed by this circuit although in the rainy season it would become muddy and would need extra-care protecting cloth bundled on the wheeled carts from receiving soiled through the mud splashed from the wheels. It was mostly used through traders desirous of returning to their ships anchored at Surat-Swally port before the onset of monsoon. This circuit was only sparsely provided with *sarais* mostly situated in biggest cities. As two biggest manufacture centres, for copper and indigo were clustered approximately Kotputli and Bayana respectively, traders for these commodities usually selected the Rajasthan circuit. The absence of rivers, except for Mahi, Narmada, and Tapti on this circuit was a separate advantage. This circuit was also sometimes preferred for travel throughout the monsoon season since it did not suffer from the problem of muddy tracts either.

Southwards

Running southwards crossing Godavari and passing by Bidar the largest circuit to south India linked with Hyderabad which was a significant manufacture and administrative centre. From Hyderabad it branched off in the west and in the east. The western branch passed by Gulbarga, Bijapur, and Belgaum and terminated at Goa. The eastern branch linked Narsapur and Machhlipatam and from there traversed beside the coast upto Pulicat-Madras in the south. The western branch was mostly used for spice deal, especially deal in pepper. The eastern branch passed by the area of diamond mines and also the calico centres of south India. The communication circuits situated in the

area flanked by Krishna and Kaveri river do not discover detailed mention in the sources. In information mainly of the details for this area have to be worked out on the foundation of the information contained in James Rennell's *Memoir of a Map of Hindoostan or the Mogul Empire* and Robert Orme's *Historical Fragments of the Mogul Empire*. Jean Deloche has used these sources cautiously to define the communication network of south India. The following details have been taken from his job:

- Subsequent to the fall of the Hindu empire, the South of the peninsula experienced a protracted era of instability, aggravated through the funding of self-governing principalities and the Maratha and Mughal incursions, before a new centre of political gravity in the heart of the Maisura plateau was recognized at Srirangapattana on the Kaveri at the time of Haidar 'Ali and Tipu Sultan in the second half of the eighteenth century. We have no information concerning the roadways of the South throughout that interval, excepting since pertains to those circuits leading from Haidarabad to the deltas in Andhra situated to the north of the Coromandel.
- Flanked by the Krisna and Tamil country land communication looks to have vacillated flanked by the coastal track and the inland roads. The passageway which served the numerous coastal ports was cut through lagoons and wide, deep rivers necessitating the utilization of ferries. Inland, the circuit crossed Gunturu, Vangolu and Nelluru, but its course, except for in the area of Lak PaLaveRkatu, ran always to the east of the present-day road and, especially mid-method, neared the coast.

Communication Support

In the conditions prevailing throughout the medieval era the travellers' largest concerns were unhindered travel and enough provision of resting/halting spaces for close night keep. The nature of support also depended on the volume of traffic and the frequency of travel on dissimilar circuits. There was therefore an uneven spread of the support since the circuits more traversed and through the superior number of travellers were provided adequately while on the circuits attracting lesser traffic the facilities were sparse.

Roads

The information on the condition of roads and their travel worthiness is accessible in the descriptions given through the travellers by those roads. A biggest section of this information comes

from the explanations given through European travellers visiting India throughout the medieval era. It is usually agreed to through mainly of these travellers that a biggest section of Indian roads was in the shape of beaten tracks without any permanent treatment being given to their top surfaces. The general way used for creation these roads have been called through Deloche:

- After having cleared a passage in the jungle few 30 to 50 feet in width, the region to be traversed through the road was delineated through digging a little ditch on either face, the bumps were leveled and the depressions filled with, depending upon the terrain, clay, silt, sand, gravel or pebbles, in such a manner that the surface layer was slightly convex towards its centre, permitting therefore of the drainage of water.
- These natural beaten tracks were well adapted to an organized rural community which had the wherewithal to uphold them, and in which seasonal traffic corresponded to the harvest eras. There was therefore a considerable region of India in excess of which communications and transport could be effectuated basically through leveling the terrain and undertaking minor improvements. Regional and local roads were mainly regularly of this kind, since were even the largest circuits in excess of the biggest section of their aloofness. This is again proof that natural viability was a significant factor in communications.

The paved roads, that are those having been given a more permanent top surface treatment with stone pebbles or rubble beaten on it, were some in number and were mostly confined to the superior cities such since Delhi, Agra etc. In such spaces again the paved tracks usually did not extend distant beyond the confines of the cities. A special example where a mountainous tract was cut by and paved with stones creation the surface strong and lasting has been noted through Irfan Habib for the area of Panjab, close to Margala pass flanked by Rawalpindi and Hasan Abdal.

Bridges

A bridge may be defined since a building spanning rivers, marshes, declivities etc., and providing a passageway for pedestrian and wheeled traffic. The first man-made bridge was almost certainly a tree trunk or flat stone laid crossways a stream, but we can only speculate on such beginning. What we know for sure is that from the earliest times three prominent kinds of bridges well-known to us have been beam-bridges, suspension bridges and arch bridges. These three kinds have been varied or combined to assist each other in the similar building. Therefore in their simplest shape beam bridges are described easy spans, but quite often two or more of these spans are joined jointly in excess of the piers to create them continuous. Two significant differences of beam bridges

are cantilever and boat bridges, In a cantilever bridge successive layers of beams are piled upon one another in such manner that each upper layer juts out slightly in excess of the layer immediately below it. The boat bridges are simply beamed kind sustaining on floating supports. The thought may have originated by the lashing jointly of some boats to uphold a river crossing, either to meet a special require or when the stream had dwindled in the arid season to become narrow. Suspension bridges were generally built to span narrow gorges through stretching a rope or such material crossways the gorge and tying it to tree trunks on either face. Arch bridges used the technique of creation curved formation in bricks or stones with the help of a reliable binding material such since gypsum or lime mortar. This peculiar formation was obtained with the help of visors which were tapered or wedge-formed stones; quite a sizeable portion of the weight of this super-building resting on piers was transferred to the end points recognized since abutments.

The beam bridges in their several shapes since well since suspension bridges were recognized in India from ancient times, but the arch bridges were introduced here only after the Turkish conquest, the earliest surviving specimen being a bridge on the river Gambhir below Chittor built throughout the reign of Alauddin Khalji. It is motivating to note that with the passage of time bridges in India came to acquire a categorization which was dictated through the material of construction rather than being based on the principles of engineering involved. Depending upon the availability of the dissimilar kinds of materials used in the construction of bridges, each one of these categories became specific to scrupulous areas and topographical settings. Therefore the cantilever bridges needing mostly wood for their construction flourished in Kashmir and other hilly regions where appropriate timber for their construction was abundantly accessible. At the similar time boat bridges built on the similar principle, which were used since an immediate device for crossing big rivers in the plains, came to symbolize a separate category. Likewise masonry bridges were carried since another category notwithstanding the information that besides a big number of arch constructions these also incorporated some that were built exclusively on the tribute technique. But one necessity note here that an arched bridge would only be a masonry bridge and that from the thirteenth century onwards a majority of masonry bridge built in India were arched bridges. This circumstance would justify the treatment of masonry bridges since a separate category from the point of view of the material used in their construction.

There does not survive much proof on masonry bridges prior to Turkish invasion. It was in the thirteenth century only that the exploit of arches in the bridges gave a greater flexibility to the architects in the exploit of structure material and in the site of locations. Still the number of bridges built throughout the Sultanate era is extremely little. Possibly the necessary impetus for a wider application of the new technique of bridge-structure was not forthcoming throughout this era.

Apparently since yet there did not any appreciable economic motivation for bridge structure. The beginning of the sixteenth century then looks to spot the beginning of a new trend in this respect. There was a sizeable augment in the movement of men and goods, especially on land, and the roads had now begun to cater to a superior volume of traffic comprising pack-animals and wheeled carts besides the foot-traveller. Since the biggest arteries of land communication in Mughal India radiated from the capital municipalities of Agra and Delhi and linked with the farthestmost points in the empire, a big number of new masonry bridges sprang up on these trunk-circuits. Few of the masonry buildings surviving from the earlier era were at the similar time restored for traffic.

It is significant to note that in spite of this action rivers of big spans were without masonry bridges. The mainly general device used for crossing these rivers through general travellers were boats, sometimes played since ferry service on significant rivers. Often the travelers resorted to a crossing of these rivers at the points where they were easily fordable. But throughout an army expedition these rivers were spanned with pontoon bridges which were generally temporary buildings rose for the immediate exploit of the troops and dismantled soon after. There are, also, a some references suggesting the subsistence of bridges of boats at points of access to significant cities located on the banks of big rivers. Likewise we also have proof suggesting the subsistence and exploit of wooden and suspension bridges, most in the hilly tracts.

Sarais and Other Resting Facilities

Sarais were buildings that served the shelter requires of the travellers in medieval India. In the harsh circumstances and unfriendly countryside in mainly areas of the country throughout the medieval era the travelers belonging to all classes but especially the merchants and the pilgrims needed more frequent spaces of rest and shelter than the widely spaced cities and municipalities could give. The *sarais* situated beside the largest circuits could give spaces where men and their animals would be safe for the night and where they could be certain of food and water. Typified through big rectangular enclosures entered by wide portals with a series of cells ranged beside the walls in the interior, the *sarais* are recognized to have been introduced in India through the Turks in the thirteenth century. It may, though, be noted that the custom of providing safe road with protected stations beside its length dates back in India to a era earlier than even the advent of Christianity. Throughout the reign of Chandra Gupta Maurya rest-homes for the comfort of the travelers are recognized to have been built in the cities since an act of charity through the state. For the reign of Asoka there is positive proof for the subsistence of rest-homes on the largest circuits in the empire. The seventh pillar edict of Asoka engraved on the Delhi-Topra Pillar, just standing in the Kotla Firuz Shah provides this information.

The organization of *sarais* is a Turkish organization. Through the transitional of the thirteenth century *sarais* had begun to be built in the superior municipalities of Delhi Sultanate. Whether same *sarais* were recognized in the countryside beside the trunk circuits is not sure, the possibility however cannot be ruled out. In the construction of the *sarais* the mainly significant contribution, though, looks to have been made through Sher Shah. The chronicles approximately unanimously hail his attempts at establishing *sarais* for the convenience of the travelers on every significant road in the empire, at regular intervals. The European travellers since well since the Persian chronicles testify to the subsistence of widespread net-job of *sarais* in Mughal India, well placed beside the trunk-circuits and also in cities and municipalities. For the municipality of Agra, Abul Fazl's *Akbar Nama* refers to an order 'given to the workmen' towards the end of 1578 'that they should erect *sarais* in the several quarters of the capital, and create them in excess of to benevolent and generous persons therefore that the poor and needy of the world might have a house without having to seem for it, or to endure the pain of staying'. The effects of this order were apparent for in 1611 an English traveller John Jourdain wrote: 'There are several faire sarrayes in this cities, where travail ours may lodge for a small or nothing'. Same proof for other municipalities can similarly be cited from the travellers.

The notice should, though, be taken of a some analogous organizations, possibly native in origin, which lived in Mughal India. One such organization is *dharamsals* or *posals* of the Jains. It seems that the *dharamsals* or *posals* were run through Jain merchants since rest house- cum-worship spaces for the keep of the members of their own society in cities. Evidently, the *dharamsals* or *posals* represented an organization of the similar type since the *sarais*, but with the following variations:

- That they were mostly situated in the cities
- That unlike the *sarais* their exploit was restricted approximately exclusively within the Jain society, and
- That they tended to shape a section of the religious establishment of this society.

Another organization of a same type has been accounted from south India. It is described 'Choultry' and has been called since a structure designed for the reception of travellers, sheltered and enclosed on three faces with walls, but open in front, where instead of a wall, the roof is supported through pillars. The choultry would give shelter and facilities for cooking food. It was not sheltered in the shape of rooms in view of the temperate climate of south India.

Transport

Our sources reveal that the organization of transport in India throughout the medieval era was mainly based on carts driven through animals. In addition, for faster travel, individual travellers or a cluster of travellers usually used horses. In such cases, however, the amount of goods accepted through travellers had to be reduced. Porterage, both human and animal, was also a practice prevalent throughout this era.

Wheeled Transport

Wheeled carts were the principal mode of transportation, especially of commodities taken in excess of extensive distances. The travel explanations often provide information on the mass of the travel party and the number of wheeled carts comprising travel party. These carts were also used for transporting men, women and children and, it is logical to assume, were a preferred mode of transport for weak and infirm. The kinds of wheeled carts used throughout the medieval era have been researched through Jean Deloche. We provide here the details since stated through him:

- There were at that time two kinds: the carts which were used through travelers, and the wagons designed for the transport of goods. The first, usually drawn through oxen, or occasionally through horses..., were fitted out with a seat and a type of baldaquin, supported through bamboos, and was decorated just as to the social status of the passengers, with a carrying capability of one or many persons. In western India they could cover few 50 km a day with oxen of good excellence which were able to sustain a reasonably brisk pace. In the countryside of eastern Bihar, where the animals were less efficient, the *manjholi* and *rahru* sheltered at the time of Buchanan a daily aloofness of only few 20 or 32 miles. One also establishes in the western plains light four-wheeled carts drawn through oxen and reserved for the prosperous, bankers or dance clusters. More robust carts, also having spoked wheels, were utilized for field job and the transport of goods, since well since heavy wagons with solid wheels drawn through many pairs of oxen, which have today disappeared except for in a some archaic and in accessibled corners. Under such circumstances, with a maximum load which could scarcely exceed 600 kilos, the carts sheltered but relatively short distances in one day: few 20 km, which nevertheless offered sure advantages in excess of pack animals.

Porterage

Porterage, both animal and human, was also in exploit in medieval India however with varying degrees of usage in dissimilar sections of the country. Dissimilar types of domesticated animals were trained and used for this purpose. They were also categorized just as to their load-bearing capacities and the speed and distances they could travel. Therefore horses and mules shaped one category which was mostly used since swifter mode of transportation. In the other category were animals such as oxen and buffaloes. They were employed in situations needing the haulage of bulky goods in excess of extensive distances however with comparatively slower speed. Camels were used since special category animals for traversing desert areas. Likewise elephants were mostly used in special situations challenging the movement of extremely heavy loads in excess of short distances. The employment of humans for the purposes of porterage was mostly for short aloofness transportation of goods and for transporting other humans in palanquins or litters. The transportation of goods through human porterage has been called through Deloche therefore:

- Usually, substances were borne in one of two manners: either through placing them on the head, which was protected through a straw ring or through means of a rolled length of cloth, or through carrying them in two baskets suspended on either extremity of a pole borne on the shoulders, equivalent to a shoulder yoke, and described *bahangi* in the North, *kavadi* in the South. The implementation of these ways varied from area to area and in the middle of social clusters, since well since just as to diverse factors which regularly elude our knowledge.

Same details for litter transport are also accessible in Deloche's job:

- Conveyance through means of litter was widespread. Two kinds of vehicles were used: the one-pole small or *palanquin*, consisting of a bodywork suspended from a straight or lightly curved bamboo, the richness of decoration or degree of comfort corresponding to the social rank of the travellers; and, the two-pole litter, made of a framework stretched flanked by two similarity bars, often sheltered and curtained, approximately exclusively reserved for the travel of sovereigns, the women of the *haram* or the procession of the heavy temple statues.

EIGHTEENTH CENTURY IN INDIAN HISTORY

THE EIGHTEENTH CENTURY: SALIENT CHARACTERISTICS

In order to understand the broad procedures at job, and to create sense of the immense range of issues thrown up through the differing points of view, it is worth keeping in mind the following salient characteristics of this century.

First, the eighteenth century witnessed two transitions. One occurred with the parcellisation of the Mughal Empire into local, and even sub-local, political entities. While this most involved the redistribution of political domination in the middle of local social clusters, the other transition went much deeper. This occurred towards the transitional of the century and was unleashed through the political ascendancy of the British East India Company after the battles of Plassey and Buxar. Involved in this were few new growths, the mainly significant being the transformation of an overseas trading institution, the East India Company, into a ruling domination in India, and the exploit of this political supremacy for military and commercial purposes.

Second, in order to fathom its full implications historians are beginning to seem upon the eighteenth century since a 'extensive' century. Recent interpretations tend to see the political dynamics of this century beginning to unfold in the 1680s amidst the fragmentation of the Mughal Empire. Through the 1720s the aftershocks of the disintegration had been absorbed through the stable local polities which had appeared in mainly sections. From the 1750s biggest political realignments had started occurring under the rising hegemony of the Company. This procedure sustained till the 1820s through which time all biggest indigenous regimes had been either annexed or had become subsidiary allies of the Company. Therefore in conditions of its political significance the eighteenth century encompassed the last two decades of the seventeenth and the first three decades of the nineteenth centuries. From the economic perspective too a 'extensive' view is a worthwhile one. There is now substantial proof to illustrate that political regeneration in the provinces was accompanied through local economic reorientation. While few spaces declined, economic development occurred in other regions and this was spearheaded through regional landed and commercial classes; and compared to a prevalent view which stresses economic dislocation from the transitional of the century, recent research illustrates that despite the pressures being imposed on indigenous buildings through the ascendancy of the Company, prospects of economic development were not abruptly closed. Such was the situation till first two decades of the nineteenth century, when through all explanations the slow development of the eighteenth century was coming to an end.

A third meaningful perspective, which has been of a recent vintage, is to see the connection flanked by the Indian economy and the global economy. The Indian Ocean was section of an elaborate commercial network with the Atlantic and the Pacific, and it was the rising Europeanization of early contemporary deal that set the tone and the future of India's commercial life in the eighteenth century. In its extensive engagement with this commerce, the Indian face had always provided goods and the services, but under circumstances of demand which were mediated through the global networks of European commerce. The profits were significant from the Indian point of view, and much wealth flowed into India by this channel. From the perspective of

understanding the eighteenth century, these growths are significant. A substantial section of the problem of stability flanked by the Mughal and post-Mughal and from there to the early-colonial can be understood if one remembers that Indian commercial life and merchant capital was deployed in the service of wider networks of connections whose impulses were determined since much since from Africa, South-east Asia and Europe since they were from Agra and Delhi. The early-colonial intervention deepened this incorporation. One example of this was transformation in the networks of the intra-Asian deal in the transitional of the eighteenth century when the earlier linkages flanked by India and west Asia were now redirected towards east and south-east Asia under the directions of British commerce. As the eighteenth century was era of global economic expansion and as India's overseas deal also increased phenomenally in this era, any view which sees the eighteenth century only since an era of economic disjuncture or crisis is a questionable one.

The 18th Century Debate

Given the rapidity and the significance of the changes which occurred in the 18th century, it is natural that there are differing interpretations of approximately every issue involved. Broadly, the debate follows the traditional division of this century into two halves and the protagonists of dissimilar points of view can be divided into two broad clusters. For the era up to 1750 one can divide them into those who hold an empire-centric view and those who hold a area-centric view. For the era after 1750, the views can be held to broadly conform to the Indianist and Europeansist positions. In other languages, for the first half of the 18th century, there are historians whose view of the 18th century is based on the centrality of the Mughal Empire and its organizations in the workings of the community and economy of the country. In this view the decline had catastrophic results. While the extreme edge of this view would interpret the decline since one of political chaos and anarchy, recent interpretations see it more in conditions of a structural collapse but with extremely small positive emerging from the rubble. The local formations, which succeeded the empire, are ascribed with small potential for improving their performances beyond the stages already achieved since Mughal provinces, whereas oppositional movements like the Jats, Sikhs and Marathas are measured nothing more than predatory-formations with extremely small positive to speak for them.

In contrast are those who view the growths from the perspective of the provinces and localities. Instead of giving the empire a super ordinate role, since is done in the empire centric perspective, the area-centric approach focuses on how social clusters inhabiting dissimilar regions of the empire became active mediators in determining the course of the political and economic

trajectories for their own ends. At one stage, the buildings of Mughal provincial government was fundamentally transformed which led to the making of autonomous kingdoms in Bengal, Awadh and Hyderabad. At another stage there arose those polities, like the Marathas and Sikhs, whose genesis place in opposition to the Mughals, but who, ironically, created political systems within the imperial domains which also made exploit of several of the administrative ways of the Mughals. All these customized provincial authorities gave the erstwhile Mughal grandees new opportunities to deepen their hold on domination in the areas, and in addition, their clients and family members were also able to amass big bundles of proprietary rights and rights to farm revenue from the state which in course of time became hereditary estates. A procedure of commercial development in the areas underpinned all this.

For the post-1750 situation, the Europeanist account provides primacy of lay to the ascendancy of a triumphant, expansionist Europe defeating an India in chaos and disarray. This is through distant the mainly dominant view amongst Indian nationalist and Marxist historians, and gives the foremost historical perspective on the roots of India's economic backwardness. The nationalist view overwhelmingly has been to see the anarchy in eighteenth century India since a momentary but catastrophic lapse in an otherwise unfolding saga of nation structure in India's history which allowed a foreign domination to conquer and to colonies the country. While the more traditional Marxist view was to see the rise of British rule since a necessary evil since it ended much of the 'feudal' disintegration of community in the eighteenth century, more recent variants see it since an organization relentlessly driven through the search for profits, commodities and markets, with no 'progressive' characteristics to its credit. But few general assumptions are embedded in both historiographical perspectives since distant since the eighteenth century is concerned. The first is the assumption shared through both that order and continuity could exist only in big, pan-Indian political buildings; and as this disappeared in the eighteenth century, it was a era of chaos, anarchy and decline. The second commonly shared ground is that of discontinuity. Both see British rule since a fundamental disjuncture: a totally foreign and alien organization of power, completely removed from the customs of Indian governance or civilization.

On the other hand, the Indianist perspective tries to adopt a more differentiated perspective of this transition to colonialism. The rise of the British domination is seen not since a one-sided procedure of conquest and subjugation, but also since a result of Europe's deep engagement with India in excess of a extensive era. Instead of a forced grafting of a foreign regime on Indian soil, the emphasis is on the method in which circumstances in Indian community determined the emergence and shape of British India. In this argument, the form of British rule in India was determined since much through the metropolitan interests since it was through Indian agency. Instead of seeing the

eighteenth century since a era of unchecked anarchy, the Indianist perspective devotes great attention to the political continuity imparted through the 'successor' states of the Mughal Empire. Instead of seeing a picture of economic regression in the disintegration of the empire, the Indianist view is that India's commercial and military sophistication sustained in the eighteenth century and the Company used this to its advantage. While there was strong indigenous resistance to this intrusion, Indian agency was a basic ingredient in ensuring the ultimate success of British rule in India. British rule was based on Indian norms of governance, manners of agro-commercial administration and the skills of its human possessions, but it successfully customized these for its own purposes. Therefore in the Indianist view, the eighteenth century was not a century of ruptures, but a century of deep continuities in which past organizations and buildings sustained albeit in considerably redeployed shapes in the midst of vastly expanding commercial opportunities. Those subscribing to this view are often infelicitously referred to since the 'Cambridge School' since several of the protagonists are located in North America and a number of Indian historians also share this perspective. Though, jointly they constitute what is commonly referred to since 'revisionist' historians.

The Mughal Empire, its Decline and the Genesis of the Eighteenth Century

Much has been written in relation to the decline of the Mughal Empire. Since stated earlier, theories of moral turpitude, weak rulers and communal policies require not be taken seriously since they are empirically unsustainable. Later Mughal emperors, for instance Farrukh Siyar, tried in their own method to stem the rot. There is no proof to suggest that these emperors abdicated their responsibilities, but measures were moving too fast for a single person to handle. The other theories focus on a rapidly disintegrating building, a severe crisis in the Empire's fiscal and *jagirdari* systems, which severely compromised the organizations of governance. This has been written in relation to the extensively and Irfan Habib's arguments have been the mainly influential. For Habib, while the capability of the economy to expand was self-limiting, there was an unrestrained tendency of the Mughal fiscal organization to suitable greater and greater amounts of the peasants' surplus. This sparked off a tri-polar confrontation flanked by the imperial ruling class, the hereditary land holding classes and peasants, which soon went beyond the capability of the organization to include or manage. Satish Chandra provided significant cause when he explained the empire's demise in the inability of state functionaries to ensure the desired efficiency of the assignment organization, therefore leading to intense factional struggles. In a same vein Athar Ali saw the crisis since a result of a rising shortage of *jagirs* and the inability of the organization to accommodate the rising number of aspirants to the assignment organization in the aftermath of Aurungzeb's Deccan campaigns.

Though, a significant corrective to this was provided through John Richards who showed that *bejagiri* wasn't problem in the Deccan since it was not a deficit region, but it was the superior failure to devise a viable organization of accommodating regional elites in the Deccan which was proving to be the Empire's biggest drawback in the Deccan. In this view, the crisis arose because of an imperfect imperial consolidation, visible in the failure of the state to effectively incorporate the regional agrarian elite, thereby creating deep fissures in the empire.

An motivating argument made through Marshall Hodgson is that the three Islamic empires – the Ottoman, the Safavid and the Mughal – were successful not because of their adherence to a single formal religion, but because of their successful manage in excess of the deployment of gunpowder, and the cause why they atrophied or failed ultimately was because of their inability to stay up with the changing technologies of warfare that were happening in the western hemisphere. Can this be applied to the Indian case? Recently, Iqtidar Alam Khan has drawn our attention to the simultaneous correspondence flanked by gunpowder, centralization and resistance: while access to muskets, cannons and gunpowder strengthened the sinews of imperial domination, these were simultaneously used through its more powerful subjects to arm themselves and to resist the intrusion of the state. It was logistically impossible to prevent such crucial technology from percolating downwards. So, any notion of the state's exclusive manage in excess of firepower since a prescription of its success tends to break down since *zamindars*, *chaudhuris*, and dominant-peasant clusters controlled big numbers of armed militia. The Marathas, the Sikhs and the Jats used muskets, since did mainly other rural-magnates. One necessity also keeps in mind that these people enjoyed several traditional rights and perquisites because of their social/caste standing in the countryside. This made them capable of drawing additional human possessions to increase their military strength if necessary, which they did frequently. However the Mughal army controlled a great amount of military hardware, since a collectivity the regional magnates were always a serious military threat, especially considering their strategic site in the countryside. Through the eighteenth century the conditions of reference flanked by the state and rural magnates, since distant since military technology was concerned had equalized because of the concerted upsurge in the countryside. Stewart Gordon has shown how the Marathas were successful in tapping into a huge and heterogeneous military labour market, including the one being provided through Europeans, in the eighteenth century.

So, in order to understand the procedure of Mughal decline one has to take both a extensive-term view and a conjuncture view. The extensive-term view is that the Mughal Empire provided a number of organizations ostensibly to centralize domination, but unluckily those led to periodic crises in institutional and fiscal arrangements of the empire, which the Mughals were unable to sort out effectively. Few examples of this are the inability of the state to affect parity flanked by

assessment of revenue and what was actually composed, or its failure to prevent transmission losses of up to 20 percent of its revenue from the countryside. There was also the more structural inability of the empire flanked by a set of enduring systems flanked by the agrarian elite and the state. Both lived in a state of perennial contradiction. Of course, there were instances of rapprochements flanked by the two. For instance, there was the therefore-described Rajput policy of Akbar; but even this did not cover the entire of Rajputana or the whole grid of Rajput clans, nor was it able to include a potent source of political friction. This was further aggravated through the inability of the state to strike out workable arrangements with a myriad of little *zamindars* scattered even in the heartland of the empire since well since all in excess of the country, and this emphasised troubles. *Mawasat* and *zor-talab* therefore lived cheek through jowl with *sir-i hasil* lands. These were the longterm structural troubles.

The conjuncture problem assumed the shape of the Deccan crisis, and the continued oppositional movements of the Jats and the Mewatis in the north India, particularly in the Ganga-Yamuna *Doab*, and of the Sikhs in the Punjab. Other spaces, like eastern India, where great commercial advances had taken lay in the seventeenth century, there was the difficulty of receiving adequate tribute since *zamindars* had been able to exploit a slack revenue organization to their advantage. However this did not reason political instability, it emphasised the financial troubles of the empire. This was accompanied through the convergent crisis in two other Asiatic empires which disrupted the recognized and highly profitable commercial linkages flanked by India and west Asia. In information in one influential account of the economic troubles being faced through the great Mughal port of Surat is ascribed to the crisis of these empires. The conjuncture crises intensified the extensive-term disagreements flanked by the imperial imperative and the regional imperative and brought the empire to its knees.

What is being suggested here is that to understand the endogenous procedures of centralization, decentralization, and crisis in the Mughal Empire, the constantly changing and negotiated connection flanked by the centre and the localities, and the perpetual tensions flanked by the imperial ruling class and the regional magnates, have to be kept in mind. These relationships were never fixed at the dictates of the state; they were constantly changing and unfolding. The analysis of the Mughal Empire since an establishment of negotiated political relationships means that there was greater flux in its interstices, and this fluidity allowed for a greater constellation of social clusters in dissimilar sections of the empire and this explains the several social configurations in dissimilar sections of the empire. Learning the empire in conditions of the fluidity of the connection flanked by the centre and the provinces allows us to understand articulation flanked by the areas and the centre. The more the empire tried to centralize, the gainers were the local clusters, which latched

on to this procedure of centralization and benefited from it. Since the empire generated enormous wealth by its revenue mechanisms, the tussle flanked by its maximization and the efforts to retaining superior and superior proportions of this wealth in the localities grew stronger.

The Procedure of Regionalization

If one adopts a area-centric perspective, alternative adaptations of the empire and its collapse begin to emerge. Even in the Persian word sources, there are possibilities of reading more decentralized and vulnerable adaptations of the empire. For instance, Andre Wink's advances the notion of *fitna* to argue that the organization was constantly being subverted from within and that there were forces of factionalism and centrifugalize constantly pulling absent from the centre. Stephen Blake's account of the Mughal organization since a 'patrimonial-bureaucratic' edifice is another such variant reading. What this means is that the Mughals were always walking a tightrope while attempting to balance an elaborately personalized approach of rule with a highly militarized and centralized vision of the empire. This created a peculiar contradiction, and since M.N. Pearson has argued, the Mughals failed to bridge the gap flanked by a paternalistic, highly personalized shape of government and its military aspirations; that while trying to be militarily effective it was not able to carve out a organization of rule based on an autonomous military bureaucratic organization. Muzaffar Alam also illustrates how the imperial procedure was continuously being subverted through the aims and aspirations of the regional gentry constantly attempting to consolidate themselves at the expense of the imperial ruling class.

What we now see is a entire range of pressures pulling absent from the Mughal state: these ranged from factions at the centre to the self-governing consolidation of the regional and local elite. The nature of the elite was not the similar everywhere. While in Awadh such people belonged to the upper echelons of the social organization, elsewhere they could contain more 'subaltern' units like the Jat peasantry in the Punjab or the Sadgop *zamindaris* on the fringes of the settled zones in Bengal. Merchants and bankers played a crucial role in underwriting them for a consideration. It is this variety which seems since a striking characteristic of the newly constituted local elite in the eighteenth, therefore giving us a picture of a organization buffeted through multi-polar tensions. The crisis now can be seen since one created through resurgent aspirations of clusters below collected of what C.A. Bayly has called since 'several kinds of military, merchant and political entrepreneurs' all coming jointly to 'capitalize on the buoyant deal and manufacture of the Mughal realm'. This resurgence did not mean a decline; it meant the social displacement at the top combined with the replacement of few organizations and the reconstitution of others.

The vital point is that seeds of transform germinated within the Mughal organizations themselves. Paradoxically, the organizations of centralization generated their own counter-tendencies. Much of the procedure of regionalization can be explained through the consolidation of the imperial elite who took advantage of the disintegrating *jagirdari-mansabdari* intricate for their own purposes. Same tendencies were at job in the *zamindari* organization too. While the Mughals sought to create the *zamindars* job since intermediaries in their land revenue management, these regional elites, highly armed and ruling in excess of substantial domains like petty kings, generated alternative, localized, sub-imperialisms. Also recent researches, particularly in the Mughal provinces of Awadh and Bengal, have done much to study the older views of *zamindars* since a class of rural exploiters. On the contrary, they were active mediators in regional economies since financiers, entrepreneurs and consumers. They financed agricultural reclamation, set up markets and traded, and consumed in cash.

Their retainers became a sub-elite flanked by them and the peasants, since they were generally given prebends, which they used to extend little zones of high-value consumption in the countryside. They therefore rose in rebellion to defend the fruits of their prosperity from the intrusive pressures of state fiscalism. These in turn were used through the provincial satraps to enhance their dominations vis-à-vis the centre. In Awadh, the provincial *subahdar* enhanced his domination through by such agrarian disturbances since a bargaining counter against the centre. In Bengal, the *subahdar* used the pressing financial requires of the empire and the recalcitrance of few regional *zamindars* to increase his domination foundation. Recent studies of the political procedures in eighteenth century have indicated the development of three kinds of regimes. First, there were those that replicated the former imperial buildings. Ruling these ‘successor’ states that nominal Mughal governorships: The Deccan, Awadh, and Bengal who tended to perpetuate Mughal shapes and practices. The second kinds of regimes were the polities whose origins were self-governing of the Mughal Empire. These were the Maratha, the Jat and the Sikh regimes, whose crystallization recognized new systems, therefore on behalf of a real and persistent danger to the Mughal Empire. The third political intricate was very significant. This comprised several regional principalities of Muslim, Hindu or tribal origin situated in the frontiers of the semi-autonomous states. Since burgeoning Jat *zamindars* began to push them out of the Ganga-Yamuna *Doab*, Rajput clans began establishing petty- kingdoms from Gujarat in the west to Awadh in the north by a procedure of conquest, migration and resolution. In Rohilkhand and Bhopal, Afghan chiefdoms were recognized through an innovative combination of conquest, revenue-cultivation and trading with the northwest boundary.

Agricultural colonization, revenue cultivation and commercial relations were also instrumental in the consolidation of the Banaras Raj and the great *zamindari* households of Burdwan or Qasimbazar in Bengal. On the northeast boundary of India Mughal expansion was stopped in the 1680s through the Ahom dynasty that maintained a self-governing Assam under a Hindu custom of kingship until the British annexed it in the early nineteenth century. In the south, while the really great royalist concentration occurred only from the 1760s in Mysore, the situation before that, since David Ludden illustrates, was characterised through petty kingdoms being shaped through the Telugu-speaking *nayakas*, who had been subordinate to Vijayanagar and had recognized their autonomy on its downfall, or from *palayakkarans* or who supervised to carve out little domains from the territory of the *nayakas*, based on temples and a highly militarised population. On the Malabar coast, the situation was an uneasy alliance flanked by the coastal kingdoms and the land-owning households held jointly through a mutual distribution of profits from deal, land and labour. An intrusive monarchical organization was introduced in this area only after the invasion through the aggressive Mysore state under Haidar Ali and Tipu Sultan.

How ‘Mughal’ were these Regimes?

Recent studies of local government and management have shown that the political changes in north India in the first half of the eighteenth century denoted no sudden deviation from the recognized Mughal pattern of politics in the areas. Few of the growths which led to the transformation of the Mughal provinces of Bengal, Hyderabad, and Awadh into virtually autonomous kingdoms can be traced back to the end of Aurangzeb’s reign and jointly represented an extensive-term procedure of transform towards a local fragmentation of domination. The rulers of successor states who were nominal Mughal governors, the Nawabs of the Deccan, Awadh, and Bengal, naturally transplanted several of the cultural idioms of the imperial court to their new capitals. These regimes tended to utilise Mughal shapes and practices of governance. Even the Nawabs of Arcot, whose rule was propped-up through the support they could garner from the English, was introducing Mughal principles of management for the first time in this area. The Marathas, who claimed sovereign rights for themselves in their territories, nevertheless composed revenue on Mughal principles, even if they used dissimilar names for their officials. Although the Sikhs urbanized separate society organizations like the *khalsa*, which were strongly opposed to Mughal claims, they still composed revenue on Mughal principles and alienated big blocks of land in Mughal-approach *jagirs*. Persian remained the official word of diplomacy, of high-stage management, and of high civilization in each of these regimes. Yet there were biggest variations.

However these regimes replicated Mughal organizations in their own territories they were not regionalized prototypes of Mughal rule. They used Mughal norms but only to an extremely limited extent and in highly redeployed shapes. There were several specific variations.

First, however several of the superior provincial regimes were recognized through Mughal *grantees*, they were highly defensive of that extremely organization on whose back they had ridden to domination, namely, the *jagirdari* organization. Each of the *subahdars* so either broke with its essentials, or customized it enormously to suit his designs. In Bengal, Murshid Quli Khan resumed all imperial *jagirs* and transferred the holders to Orissa. In Awadh, the building of the *jagirdari* organization was maintained, but big *jagirdaris* were broken-up and reallocated in the middle of smaller assignees and the nawabs maintained secure manage in excess of *jagirdari* officials. In Hyderabad the domination of *jagirdars* were curtailed through the appointment of officials like the *daftardars* and *taaluqdars* who were directly under manage of the Nawab himself. Secondly, the Mughal practice of separating the executive and fiscal dominations of dissimilar office-holders in the provinces was henceforth broken. Murshid Quli Khan appropriated the dual functions of the *diwan* and *subahdar*, since did Asaf Jah in the Deccan, while in Awadh, Burhan-ul Mulk combined the high offices of *subahdari* and *faujdari*.

The second biggest variation place in the sphere of fiscal administration, and this was ubiquitously widespread notwithstanding the variation in the mass of the regime. While the central financial prop of these regimes was the assessment and collection of the landtax in cash, the administration and its execution was given in excess of to revenue-farmers in preference to paid officials or landed intermediaries. The practice of *ijaradari*, thoroughly disapproved through the Mughals, exploded all in excess of India in the eighteenth century. The ambits of tax-farms were extended beyond *mal* to contain *sair* taxes since well since several kinds of public offices and positions. However the conventional view of historians has been to see *ijaradari* since a ruinous expedient, the proof on which this view is based is distant from conclusive. In Rajasthan, where Dilbagh Singh has extensively studied the spread of this organization, an *ijara* contract was reckoned not on the assessed revenue but on the foundation of the actual collections of the previous five to seven years. This would give an in-built check on rack-renting however there were bound to be loopholes in the organization. Studies of Awadh and Banaras have shown that *ijaradari* raised revenue and ensured a higher return for the state while minimizing its administrative overheads. It also provided the scope for a diverse range of people to become implicated in the interstices of the state's fiscal organization. Successful *zamindars* could extend their holdings through cultivation extra land and people with money urbanized a stake in agrarian administration, either through taking on farms themselves or, since was the more general practice, through advancing money to those who

did. Revenue cultivation looks to have expanded in a large method in the Coromandel from the transitional of the century, with the 'landed and military gentry' taking the lead in bidding for such farms.

This introduces the third unit of variation flanked by the Mughal organization and the new ones. In all the local polities, irrespective of their mass or geographical site, there urbanized a very secure nexus flanked by the state and people with money at their disposal. The era of imperial decline coincided with the rising involvement of banking firms in revenue collection at local and regional stages. This involvement increased in the first half of the eighteenth century. Through 1750 bankers were the ones who controlled access to the actual collection of land revenue, by provision of credit or cash. They provided the finances that enabled people to become tax farmers and had their own mediators into the countryside to collect from the land given to them since security or mortgage. During India the richest merchants and bankers were gaining a stake in the new political order, and in many of the smaller eighteenth-century states trader-bankers had become the key political cluster through the 1760s. In the superior states, like Bengal, individual merchants were given monopoly rights in excess of commodities like salt and saltpetre and wielded political power in the saltpetre districts. Why did this reorientation happen? Stable local centres began to draw banking capital. Bankers migrated from the Mughal core to spaces like Farrukabad, Lucknow, Murshidabad, Patna and Banaras where they began extending credit to rulers and *ijaradars* and guaranteed the remittance of revenue from where it was composed through bill of swap to the ruler's capital or wherever else it was needed. In regions characterised through political instability like Gujarat, Rajasthan or the western Deccan, merchants quickly establish alternative avenues of investment and patronage. The vulnerability of the Mughals against the Marathas led merchants and bankers to migrate from Surat to other municipalities. Several shifted to Poona, the capital of the Peshwas and to other municipalities, like Baroda, in the Maratha Confederacy. Credit transactions were quickly extended to the European companies, particularly to the English, who were emerging since biggest players in the local politics of this era.

The fourth region of variation was the gradual but steady insinuation of the European, especially British, unit in the fabric of Indian political life. This was a significant growth, whose implications have constituted one of the principal concerns of the Indianist reading of the eighteenth century. Instead of being a great disjuncture, the logic of the measures of the transitional of the eighteenth century can only be understood since section of an extensive pre-history of the interface flanked by Europe and India. However based primarily in commercial transactions, Indian rulers were no strangers to the skills of the Europeans in land warfare since well since at sea. Numerous Europeans were employed in the artillery wing and in the armouries of Mughal armies. Throughout

the eighteenth century the situation began to transform since several of the superior local polities began developing massed infantry drilled and armed in the European fashion with European technological and logistical expertise, and Europeans, since P.J. Marshall, says, began to 'infiltrate regimes that were willing to hire services for cash'.

Its full manifestation occurred in the 1740s. Since the tussle flanked by the Awadh family of Anwaruddin Khan and his son Mahomed Ali Wallajah, on the one hand, and the Deccani Navaityis, a biggest administrative family led through Chanda Sahib, flared up in 1740s, the British and the French became drawn into the politics of local state formation. The British supported the Wallajah of Arcot, the French propped up Chanda Sahib. British troops were also hired out to the Wallajah to enable him to consolidate his manage in excess of the southern Poligars and even in an abortive effort to procure for him the extremely rich lands of Tanjore. Chanda Sahib was defeated and killed in 1752. Through 1763, British naval supremacy and financial clout had become virtually unassailable in the Carnatic. In return for their services, the British were rewarded with leases of revenue from enormously productive tracts of land and allowed to station their military garrisons in the lands of the Nawab. Equally significant was another dimension of this connection. British personnel in Madras privately loaned enormous sums of money to the Nawab: money which was borrowed in turn from Indian and European investors, thereby giving rise to, what Bayly defines since 'a paradox typical of eighteenth-century India' in which 'indigenous capital penetrated into the emerging Muslim state organization by the good offices of British speculators'.

The Economy of the Eighteenth Century

Two troubles have occupied much of the debate on the economy of eighteenth century India. The first is the economic context in which such diverse patterns of regionalization took lay, or whether the procedures of regionalization were symptoms of economic expansion, crisis or stasis? The second concerns the state of the economy in the earlycolonial transition.

The making of post-Mughal polities wasn't always a smooth procedure. From the descriptions contained in modern literature, the impression one gets is that of a serious breakdown, anarchy and economic uncertainty. But few of it seems to be exaggerated. The transitions in Bengal and Awadh were mainly peaceful, however serious disruptions occurred in the Punjab and the eastern Deccan. Mainly serious accusations were levied against the Marathas. Their armies ravaged the rich commercial province of Gujarat in the early sections of the century, followed through plundering raids into eastern India in the 1740s and Rajasthan in the late eighteenth century. But whether these, and other instances of temporary dislocations were sufficient to reason a serious

reversal from the stages of prosperity in the seventeenth century is a debatable issue. Since Stewart Gordon's revise of Malwa illustrates, once conquest had been completed and Maratha rule was close, effective management and a regulated revenue demand on Mughal principles was installed. Agriculture was encouraged and deal revived. The domains of leaders like Sindhia, the Gaekwads or the Bhonsles supported powerful armies continued through effectively administered revenue systems through the late eighteenth century. Elsewhere too the situation was mixed. Punjab was clearly beginning to recover from its travails in the late eighteenth century, whereas Rajasthan, whose economic troubles began at that time, was thriving throughout the procedure of the Empire's disintegration. Stable regimes had also been shaped in Rohilkhand, Farrukabad and in Banaras. Expansionism was ingrained in several of these regimes. Awadh supervised to usurp huge territories from the Afghans of Rohilkhand. In the south, Mysore under the Sultans annexed mainly of the Malabar coast, and Arcot spread beside the south-eastern coast to grab the domains of the southern *Nayakas*. Such a differentiated procedure of political formation does not support notions of the decline of the Mughal Empire since an unmitigated economic disaster.

Emergence of New City Centres

Given the absence of concrete indicators of development, it is extremely hard to clinch an argument either method, but few broad parameters can be measured. However the economy sustained to be predominantly agricultural, the stages of urban development seemed to have expanded not declined in the eighteenth century. Contemporaries lamented the decline of Shahjahanabad, while other municipalities, like Sirhind in the Punjab definitely suffered. Mathura which was measured a wealthy and populous municipality till the transitional of the eighteenth century suffered a biggest blow after it was sacked through Abdali's forces in 1756; yet further down the Yamuna, the great imperial municipality of Agra was still measured through several in the 1760s to be the richest municipality in the Mughal empire, not having been plundered through either the Afghans or the Marathas. On the other hand, there is proof to illustrate that smaller spaces like Ballabgarh, Bharatpur and Kumbher were rising, and existing trading centres like Hathras or Panipat actually expanded.

Even if north India presents a mixed picture of urban subsistence, it is impossible to discover urban contraction in other sections. Modern observers talked eloquently of the augment in Calcutta's population and importance, and while Calcutta's case may be dismissed since a colonial enclave, Dhaka had in relation to the 450,000 people livelihood within its environs in 1765 and sustained to be since thickly populated later on. In 1756, Murshidabad was declared since 'one of the richest municipalities in the world'; and in 1764 it was called, through no less a person than Clive himself,

since ‘ since long, populous, and rich since the municipality of London, with this great variation that there are individuals in the first possessing infinitely greater property than in the last named municipality’ In addition to these premier spaces, Bengal also had municipalities which were positioned at medium stages of consumption. Cities such since Bhagwangola, Azimganj, Katwa, Kalna, Chinsura and Chittagong were swiftly becoming intermediate centres of consumption, deal and environment in the eighteenth century.

In western India, the incomplete decline of Surat was more than offset through the rise of Bombay. There also seems to have been no demonstrable correlation flanked by political turbulence and urban contraction in central India. In Malwa, Maratha depredations in the 1720s had not prevented a pattern of urban development beside an axis dissimilar from the previously recognized Mughal *sarkar* cities. Through the 1760s Ujjain expanded since Sindhia’s capital and Indore became the foundation for the Holkar’s, and through all explanations this municipality grew into a big and wealthy trading centre in the last decades of the century. Poona became the new outlet for Chanderi silk throughout its rapid development from a little city to the capital of the Marathas. Burhanpur which had earlier served since an entrepot for deal beside the Agra-Surat axis now shifted its hinterland to contain Pune and Nagpur and Lucknow and Allahabad in the east. In the south, where the decline of the Empire had only a tangential resonance, cities sustained to grow. Madras expanded at a phenomenal pace, and under the new regime Hyderabad witnessed extra ordinary development, both since a lay of elite residence and since a node of great commercial importance. So, the eighteenth century may actually have witnessed a net accretion since distant since city life, and presumably an urban-economy, are concerned.

Expansion of Overseas Deal

The other indication of India’s economic vitality was the considerable expansion of its overseas deal. In the early 18th century there were disruptions with the damage to the great port of Surat caused through the Maratha invasions and through the crisis in west Asia. Anglo-French disagreements caused temporary setbacks in the Carnatic, but despite this India’s overseas deal with Europe increased steadily. Om Prakash has recently shown that while the exports through the Dutch East India Company from Gujarat suffered a steady decline flanked by 1700 and 1750, these were counterbalanced through the enormous expansion of exports from Bengal flanked by 1700 and 1752. These fell subsequently, but hovered at a standard of in relation to the 2 million florins a year till 1785, which was still considerably higher than the value of exports at any point of time in the seventeenth century. While the Dutch ascendancy had certainly ended through the transitional of the century, English deal was undergoing its mainly phenomenal expansion: expanding from £ 1.15

million in 1698- 1700, to £ 1.92 million in 1738-40, £ 2.1 million in 1758-60 and £ 5.8 million in 1777- 79. The pride of lay had now shifted to Bengal. Few historians consider that prior to the British conquest of Bengal, the component of Bengal's export deal under European manage was secondary compared to the deal with Asian markets, but there is extremely small proof to substantiate such a claim. On the contrary, modern estimates of bullion imported into pre-Plassey Bengal illustrate that of the annual importation worth Rs. 10 million, the share of bullion from Asia seldom exceeded Rs.2 million. India's deal was structurally connected to Europe much before the information of colonization, and the biggest fall-out of this linkage was an unprecedented export-expansion accompanied through huge injections of bullion into the Indian economy. On a standard, the Dutch pumped in 4.69 million florins worth of bullion in the Indian economy flanked by 1700 and 1760. The English East Company brought in a total of £ 8.72 million worth of bullion into India flanked by 1701 and 1721; this had gone up to £ 12.9 million flanked by 1733 and 1756. The victory at Plassey introduced changes to the building of this deal, these were temporary closures.

The economic implications of such a huge expansion in deal have yet to be worked out for the eighteenth-century since an entire, but they are likely to have been positive. At a subcontinental stage, Om Prakash visualizes the impact to have generated expansions in 'income, output and employment'. In Bengal alone he estimates that full-time employment opportunities in the artisanal sector increased at least through 10 percent through the transitional of the century. However he discounts any inflationary impact of this huge influx of bullion, a rise in prices of commodities like rice and sugar is suggested in the prices of provisions listed in the purchases made through the English company approximately Calcutta. This would suggest that increases in money supply occasioned through superior and superior amounts of silver-bullion being pumped into the economy might have led to a simultaneous rise in both output and prices in the province. It looks Bengal wasn't an inaccessibled example since Prasannan Parthasarathi has recently detected a same tendency on the Coromandel coast from the 1720s. The significant point is that bullion was flowing to recharge provincial economies. While substantial amounts of this were being sent to the imperial centre since tribute, mainly of it tended to stick in the provinces. Early Company observers estimated that such injections of bullion had resulted in a net accretion of at least 25 crores rupees to the Bengal's monetary reserves through the transitional of the century. Provincial reorganization could therefore happen in the midst of expanding local economies. This would explain why the hallmark of the eighteenth century 'local centralization' was an augment in the assessment in the provinces and the propensity of the state to collect revenue in cash.

An overwhelming consensus in the middle of historians in India is the view that political turmoil of the eighteenth century had disrupted networks of deal, particularly beside the east-west

and Agra-Surat axes. While little disruption cannot be ruled out, what is not clear is the extent or the depth of its adverse impact. Very fragmentary proof in relation to the growing rates of insurance in the eighteenth century have been provided through Irfan Habib to illustrate an rising vulnerability of deal in this area, but this does not clinch the issue. Revenues showed no signs of declining. From Rs. 460,000 in 1571-72, Surat's revenue had increased to Rs. 700,000 lakhs in 1721. Cambay's revenue had gone up from Rs. 120,000 in 1719 to Rs.285, 000 lakhs in 1755, while Broach's revenue, which was 45,000 rupees in 1714, stood at Rs. 50,000 in 1726; it hovered approximately Rs.25, 000 flanked by 1750-60, but had jumped to a phenomenal Rs.400, 000 through the 1780s. Disruptions in western and central India had mainly subsided through the 1720s, and just as to Sumit Guha that deal increased in the Maratha territories from in relation to the that time, and commodity circulation and credit flows significantly affected village manufacture and consumption. Elsewhere too, deal doesn't look to have been critically disrupted. Since Jos Gommans has illustrates, the Afghans urbanized the circuit to central Asia via Multan and Shikarpur. This supplied India with vast numbers of horses and the caravans of Indian merchants passed westward by their territory.

Taking an overview of the economy at the transitional of the century, there is no ground to consider that the regionalization had diluted the tenuous commercial integration of the previous century. The Mughal highways operated with minimal disruption, and disruption in one region tended to be compensated through integration in another. *Banjaras* sustained to ply their deal flanked by Banaras and the Deccan by Mirzapur during the century, therefore suggesting integrated routes of extensive-alooftness deal even in cheap bulk commodities and foodgrains. For all the alleged troubles caused through the Marathas, remittance networks by bills of swap flanked by western India, Malwa, Rajasthan and Upper India looks to have held up well. *Hundi* dealers also dominated the intricate network of remittances of tribute within the Maratha territories themselves, since they did with the revenues flowing out of eastern India. Credit could still be extended and money remitted in excess of extensive distances. Bengal's rice and sugar were being traded for textiles from the Coromandel coast, cowrie shells from the Maldives, and for money from the Red Sea. Local specialization in textile manufacture looks to have intensified in this century, with the lower end of the market increasingly being catered from little, mainly rural, manufacture centres. Manufacture was increasingly receiving tied to advance contracts. Raw materials, seed or the money were advanced to weavers and cultivators through the rich and neighbors or through the mediators of merchants, who received the crops or textiles since finished products in repayment.

What was the situation in the countryside? In the absence of any continued technical improvement to enhance productivity, higher output could only have arisen through expanding the region under farming, or through rigorous marketing, or through devising newer devices to manage

agricultural labour. The eighteenth century illustrates the subsistence of all three, either apart or in several combinations. While the Punjab was undergoing a stage of contraction, and the surroundings of Delhi and Agra were suffering sharp vicissitudes, agricultural reclamation on a long level looks to have been underway in the Deccan and in territories controlled through the Marathas. Rajasthan saw fairly impressive agricultural development in the first half of the century. Prices rose faster than the stage of revenue demand providing the stimulus for rising the region under farming and for rising more precious crops. Both grain, taken through the state since taxation and cash crops were traded out of the province in big quantities. In Bengal, Richard Eaton has recognized a marked extension of farming in response to the eastward shift of the course of the Ganges delta, which created favourable circumstances for opening up new rice rising lands, whose produce went to feed the rising municipality of Calcutta and textile manufacturing districts of the west. In Awadh and Allahabad proof of rising prosperity in both country and cities is adduced in the higher revenue yields and the making of new market centres extending even since distant to the east since Bihar.

Reclamation was being organized through several agencies, ranging from the state to the landed magnates, revenue-farmers and merchants. New market centres – *peths*, *bazaars*, and *ganjs* – were being recognized, or old ones were being reorganized under new owners on a long level in Maharashtra, Awadh, Bihar, and Bengal. Particularly significant looks to have been the proliferation of village stage markets, the *haat*, since these allowed swap networks to percolate right up to the village stage. Sharecropping looks to have expanded in a large method. In the Marathas Deccan, the term used for sharecropping was *vatekari*, whereas in eastern India, sharecroppers were recognized *adhiar* or *bargadar*. Client-labour was in widespread usage in Awadh and eastern India, while agrarian servitude and bondage was on the rise in regions of expanding irrigated agriculture in south India. Such a situation leaves extremely small scope for doubt in relation to the indigenous eighteenth-century regimes witnessing significant events of economic development. While data for demographic development are scarce, there is small ambiguity in relation to the extension of farming, or expansion of deal in these regimes. On the entire, so, the situation would support the recent 'revisionist' view that the procedure of the imperial fragmentation had extremely small to do with the economies of the localities, except for in few core areas. The local economies sustained to be buoyant. Pan-Indian networks of deal thrived in the changed political scenario and in few cases may even have expanded, and regions of development look to have adequately compensated for regions of decline.

The era after 1757 is generally seen a biggest watershed in the Indian economy. A recent reassessment of the Company's rule in eighteenth century Bengal through P.J. Marshall discovers that in the Company's scheme of political dominance, the primary imperatives were:

- To ensure that their trading privileges were reformulated in conditions of absolute rights,
- To convert limited territorial grants into its outright property,
- To maximize what it obtained from grants of revenue, and
- To uphold armed forces at a stage which would guarantee its security?

Yet, its initial optimism and grandiose self-perceptions were substantially tempered 'through caution in by these dominations, which inclined the British to non-intervention and to conserve Indian states since they understood them'. In addition, there were 'severe practical restrictions on what a foreign regime, even with a monopoly of overt force could achieve in circumstances in which had only limited get in touch with the size of the population'. In order to understand the role of the Company in determining the fate of the late eighteenth-century Indian economy, one necessity put its ascendancy in proper context. The decline of the Mughal Empire facilitated the Company's bid for domination; it did not reason it. The old thought that there was complete chaos after the collapse of the empire now stands sufficiently revised. Little chaos there was, but it was geographically limited and was offset through the development of stable and commercially viable regimes at dissimilar stages. They did this with consummate ability in south India in the 1740s and that experience was to serve them well during the century. In information, mainly of the commercial concessions which the Company later used for political capital were consciously granted through the Mughals or their *subahdars* in the provinces; and the development of fortified settlements in the east, south and western sections of India occurred in the full gaze of the empire, then at the zenith of its domination. This meant that the Company's commercial and military interests were inseparably connected from an early level of its subsistence, and that its enterprise in India was geared to ensuring that it was maintained at an optimum stage. So the transition to early-colonialism was underpinned through the success already achieved through the Company in ensuring the compliance from its indigenous political and commercial collaborators to the furtherance of its military-fiscal necessities. Conquest was the great facilitator of the transition, not its creator.

One has also to stay the territorial dimension of the early British Empire in mind in order to understand the economic implications of its rule. The British Empire unfolded in excess of an era of a hundred years, and, like its predecessor, grew by a procedure of conquest, collaboration, and co-option of indigenous systems into a slowly evolving pan-Indian framework of rule. Out of a possible 4.2 million square kilometres of territory, the Company had supervised to manage only in relation to the 388,500 square kilometres flanked by 1757 and 1792, mainly of it situated in northern and eastern India. Flanked by 1798 and 1805, Richard Wellesley added another 50,000 square kilometres of territory per year to the British Empire flanked by 1798 and 1805, therefore inaugurating, what

C.A. Bayly has termed, 'the harder edge of British empire-structure' in India. This occurred under unprecedented demands being placed on Great Britain for possessions throughout the Napoleonic Wars, and was characterized through 'a new single-mindedness of the domination and dignity of the state, the morality of conquest and British racial superiority'. It also brought to an end the rampant opportunism of the Empire under Clive, of the careful protectionism, which had characterized Hastings' governorship, and the suspicious pragmatism of Cornwallis' tenure. 3.42 million square kilometres of India still place outside the ambit of the Company's manage at the turn of the century, and it wasn't before 1815 that the large push to swallow a big section of it began. With 2.56 million square kilometres under its belt through 1856, the occupation of imperial expansion had been successfully completed, however forty percent of India still place outside its direct ambit. But this view of the Company since a relatively loose building and its initial vulnerabilities cuts no ice with mainly historians in India. For them, this regime 'of blue-blooded European ancestry' was dissimilar for three causes: first, it was driven through a relentless urge to maximize revenue; secondly, it reversed the recognized patterns of trading flanked by India and Europe; and thirdly, it introduced the drain of wealth – the one-method flow of tribute – from India to Britain. The economic impact of such a cohesive organization of use was deleterious: impoverishing, deflationary and ruinous to both craft-manufacture and agriculture. Let us analyze these issues individually. Naturally, mainly of the discussion of this would centre on Bengal, which was the primary centre of the Company's rule in the eighteenth century since well since its principal financial pump.

On the question of revenue maximization, the proof from Bengal, which was the initial laboratory of the Company's fiscal experiment, illustrates that on a standard, 40 to 45 percent of the agricultural output was composed since land revenue. The demand was also raised. With 1755 since foundation equal to 100, the index of the amount assessed stood at 135 in 1770, 155 in 1778 and 168 in 1783, but had dropped to 156.01 in 1790. The amount of revenue composed also went up but not significantly sufficient to constitute a radical departure from existing practices. The Company's collections seldom exceeded 85 percent of the assessment, which compares well with situation under the Nawabs who were successful in collecting anything flanked by 90 percent and 65 percent of their assessments. The collection was made exclusively in cash, significantly furthering the procedure of monetisation in the province. But one aspect of the Company's financial activities constituted a radical break from the past. Throughout eras of price slumps, the Mughal revenue officials often carried payment of revenue in type in order to reduce the real burden on the peasantry. That unit of flexibility was now dispensed with. The Company insisted on all revenue being paid in cash, irrespective of the nature of the agricultural season. This tended to have serious consequences on the poorer cultivators throughout harvest failures. Given the information that collections were made

exclusively in cash, the question of maximization of revenue would depend on whether or not the tax-burden had increased in real conditions, and this would be factor of the prevailing state of prices. The consensual view of this era is that the real burdens had increased, since this era was one of price-deflation caused through the extraction of tribute; but this is based on an extremely selective exploit of the proof and goes against modern explanations, which illustrate a substantial rise in the prices of both agricultural and non-agricultural goods in this era. A revise of price figures accessible from the Dutch resolution of Chinsura and the prices of provisions close to Calcutta leave small doubt in relation to the inflationary tendencies at job in eighteenth century Bengal, especially from the transitional of the eighteenth century. Through the mainly conservative estimate, agricultural prices had more than doubled throughout the course of the century with the price-crest stretching flanked by 1750 and 1795. Prices dipped somewhat after 1790 but remained well above the stage at the transitional of the century stage, and sustained to be therefore till 1795; and it was only through 1800 that prices tended to fall, but not below the 1736- 40 stage. Such increases blunted the edge of the Company's demands on several parts of rural community. While the smaller and marginal peasants suffered substantially, landedmagnates and the merchants weathered the Company's pressures quite well, and in information prospered. Few historians have also ascribed the rise of a 'rich-peasant class', the *jotedars*, to this era.

Turning to the question of the pattern of trading flanked by Britain and India, the picture is one of overall stability. Bullion supplies were never discontinued after the battle of Plassey. They were reduced, and even that restriction looks to have been incomplete. The Company imported £2.46 million of treasure flanked by 1758 and 1768, £1.3 million flanked by 1769 and 1779, £3.83 million flanked by 1779 and 1789. But flanked by 1790 and 1805 the Company pumped in £9.14 million worth of bullion into India of which Bengal's share was a whopping £5.77 million. Bengal had never received such vast supplies at any other time in the past. Private European deal was responsible for the arrival of £5.2 million worth of silver to Bengal flanked by 1796 and 1806, and despite their deal being on a downward slope, the Dutch still imported 4.24 million florins worth of bullion per year to pay for their merchandize flanked by 1790 and 1794. Modern grievances, and contemporary convictions, that a severe shortage of money in the late-eighteenth century was caused through this great reversal of India's pattern of deal require to be seriously countenanced against this proof. The rate of being charged through money-changers for converting Arcot rupees into the Bengal *sicca* seldom exceeded 7 percent in the 1770s, which was substantially less than the rates being charged in the 1720s when Bengal, ostensibly, was getting vast amounts of bullion. Commercial statements from the Company's Bengal's manufactories in 1773 revealed that the combined investments through the English, the Dutch and the French companies and those made through private European

merchants 'exceed double the quantity which can perhaps be made in the year'. Traditions receipts composed through the Board of Deal in the late 1790s showed that Bengal's exports had tripled flanked by 1777 and 1797, and that mainly of it was still based on a swap of textiles, foodstuffs and other raw materials for valuable metals and sure manufactured goods. Bengal was still distant from becoming a source of raw materials or a receptacle of the finished products of an industrializing Britain in this era, and K.N. Chaudhuri's common assessment that throughout the 'half century following the revolution of 1757, deal sustained to flow beside the traditional channels' conforms well with the proof on the ground. The vitality of Bengal's commercial economy remained considerably unaltered during the eighteenth century. Elsewhere, too, commercial transactions seem to have remained robust. Nagpur, Bundelkhand, Gaspar and Mirzapur were functioning since significant nodes for the sharing of Bengal goods in western India and the Deccan at the end of the century.

In the late 1780s, almost 43 percent of the textiles produced in Banaras were being vended in western India, 49 percent was being sent to Bengal for shipment overseas, and the remaining 8 percent was destined for the Deccan and the northern provinces. Considering the information that the markets for the luxury-end of Banaras textiles, it's silk, was traditionally situated in north and western India, whereas Bengal received its medium-priced cottons, this local division of the deal from Banaras does not illustrate a biggest transform in India's internal market for textiles. Through the 1790s, cotton wool from Gujarat and central India, and Malwa opium and indigo had started becoming a significant section of India's overseas deal, and may have even partly compensated for the decline of few of the old staples. The North American market for Indian goods was expanding, and in Asia the demand from Europe was being complemented through the demand from the Indonesia, while the west Asian markets revived through 1790. The effort through the Company to monopolize the manufacture of the 'new' international staples like opium may not have worked since efficiently since whispered through few later historians. Since B.B.Chaudhuri has shown, the manufacture or the sale of such cash crops by the advance-payment organization did not prevent 'market conjunctions', especially prices, in determining the autonomous response of the cultivators towards these crops; nor could the monopolistic policies of the state obstruct indigenous sources of credit from percolating into these sectors of manufacture. In information, cultivators often establish advances to be an assured source of income and even welcomed them. International demand had also induced a unit of local specialization in the manufacture of indigo. Bengal, Bihar and Banaras produced the finer diversity, Awadh produced the 'middling' sort, whereas the 'ordinary' sort was being produced in the Doab and further west.

Other continuities lived. A biggest one, the financial relationships flanked by the state and the bankers, which had been recognized throughout the procedure of local development was sustained and even deepened in this era. Indigenous bankers supported the Company throughout the Plassey 'revolution', and once in lay few changes occurred. However the old banking establishment of the Jagat Seth had declined, the East India Company's Bengal revenue still depended on the advances of Indian bankers. Their capability to transfer finances all in excess of India through bills of swap or *hundi* made it possible for armies from Bengal to operate in western India or in the south. One shouldn't underestimate the resilience of the Indian banking organization nor its capability to resist the Company's financial machinations. Recent research in the banking sector of late-18th century Bengal has shown that Bengal's bankers sustained to operate in the framework of their traditional business practices. They cooperated with the Company, but only on their own conditions, and it was their intransigence which was the largest cause why the Company's repeated efforts at reforming the currency of Bengal remained unfulfilled till 1835. Bengal was not an inaccessibled example. Studies of banking in other sections of India have also shown the persistence of the connection flanked by indigenous capital and the early-colonial state. In Bihar, the transform in the political regime in eastern India looks to have adversely affected few prosperous provincial merchants, but substantial banking firms of Patna and other municipalities of Bihar survived and thrived since their remittance business increased under the aegis of the Company. Like their counterparts in Bengal, *shroffs* sustained to do good business, taking advantage of the multiplicity of coins. In western India, the linkage stemmed, paradoxically, not from the strength but from the weakness of the Company's funds. Here, the Company was facing an acute shortage of money and this made them turn inevitably to the financial assistance of the indigenous bankers.

The steady expansion of English deal, particularly English private trading towards China in the 1780s cemented this connection. The share of private deal, which was 7.6 percent of the total overseas deal of Bengal flanked by 1752-58, 6.8 percent flanked by 1759- 1764, and 5.96 percent flanked by 1766 and 1772, rose to 41.88 per cent flanked by 1790 and 1799. Few of this deal were undertaken through the import of bullion, but such vast increases necessitated internally generated finances. Commercial opportunities therefore expanded for people with money. These were accessible in good measure from Indian financiers who provided private traders with ready-money loans, or invested in the agency homes, which were rising in Calcutta and Bombay most to fund the rising deal of opium and cotton to China. In southern India, the documentation on the connection flanked by the Company and bankers is not extremely clear, but the superior nexus connection flanked by the Company and indigenous funds looks to have occurred initially in the context of its participation in indigenous state structure, particularly in Arcot, reference to which has been made

earlier. Prasannan Parthasarathi does not see bankers playing a biggest role in the Company's funds in the south, but he detects an expanding connection flanked by it and merchant-financiers, which became critical for the rise of English domination. The Company also received financial support from other clusters. By the expanding opportunities of political profiteering opened through the Company, *dubashes* drawn from the Komati commercial society of the Andhra area made big fortunes, much of it which they pressed back into the services of the Company's funds, and on the Coromandel, Chetty merchants and Brahman *ijaradars* served since section-financiers and explanation-keepers of the Company's deal. On the Malabar coast, the systems of renting monopolies and an array of new taxes on precious agricultural produce which had been recognized throughout the job of this area through Mysore, was used through the Company and private British interests in Bombay to set up lucrative deal in peppers and cardamoms with the help of the indigenous merchants, who had also provided the commercial support foundation of the previous regime on the Malabar coast. Therefore it would look that in south India too the early-colonial organization had the backing of a diverse cluster of commercial and powerful indigenous people.

For such people, the late eighteenth century was an era of expanding commercial opportunities. Here the Company effectively intervened to free the internal market of restrictions imposed through *zamindari* manage throughout the previous regime. These had taken the shapes of a proliferation of *zamindari* outposts to collect tolls at several rates dictated through the financial predilections of an individual *zamindar* and continuous disagreements flanked by merchants and *zamindars* in excess of the rate of tolls, in excess of market jurisdictions and the movement of commodities. Through taking a number of interventionist events to regulate the management of non-agricultural taxes, the Company was able to take a number of steps flanked by 1773 and 1790 to rectify this situation. The chief of them was the abolition of the myriad duties which were levied at the several chowkies upon articles of internal consumption, and their consolidation at the final point of destination. The administration of such duties was to be under five traditions homes to be recognized at Calcutta, Hughli, Murshidabad, Dhaka and Patna. The other problem, of the manage exercised through the *zamindars* and the *taalluqdars* in excess of markets, was redressed in 1790, when the Company introduced a separation flanked by rent composed in the markets therefore controlled and the taxes composed there on deal. While rent could continue to be composed on a private foundation, the right to tax was henceforth to be vested in the Company. These events streamlined the building of internal deal, and enabled a rationalization of incomes flanked by the state, the landed-magnate and the merchant. The combined result of these policies was a proliferation of market spaces all in excess of Bengal. The augment in their numbers or their establishment in

previously deficient regions enabled the peasantry to relate more easily to wider markets, and merchants could move more easily by them with their networks of credit.

Landed proprietors, who set up markets in the interior regions, provided loans to cultivators and usually underwrote the funds for agricultural reclamation, also joined the commercial bandwagon. This was certainly the case in Bengal. Markets created through the petty gentry and great nobles similar were appearing in Awadh, Maharashtra and peninsular India in the much less propitious conditions of the late eighteenth century. In Maharashtra such spaces grew into 'small cities' where an entire range of people could spread themselves into commerce, land holding and revenue cultivation in equal measure. Landed magnates also tried their hand at the direct farming of indigo when markets looked favourable, but mainly of them preferred to latch on to opportunities opened through the newly expanding horizons in the deal in indigo and opium through routing few of their monies into provisioning the agency homes that raised much of their capital in the vicinity.

The Indian Economy in the Late Eighteenth Century: The Emerging Variations

While such a picture does not square well with the notions of devastation and decay which reside therefore dominantly in the received wisdom of early-colonialism, it would be quite wrong to think that nothing had changed in India, or that every transform was for the bigger. The Company's regime was aggressively mercantilist whose orientation was European, not Indian. State policy was financially driven and all organizations were to be streamlined to ensure this ultimate objective. Notwithstanding the great rhetoric which accompanied it, the Permanent Resolution was a feat of mercantilist social engineering to stabilize Bengal's revenue for the purposes of the Company's commerce. Under its conditions the Mughal right of taxation, traditionally devolved upon the *zamindars* through the state was fused to their *milkiyat*, their 'private' domains, both of which could now be sold. However this enlarged the 'rule' of private property in Bengal's countryside, the dip in agricultural prices after 1790 exacerbated matters and left the ordinary cultivator to receive the rough-end of the stick. There is no doubt that agrarian distress had increased substantially in the immediate aftermath of the Permanent Resolution.

What this designates is that while the early-colonial regime buttressed regimes of indigenous landed and commercial properties; it did therefore through rising the vulnerability of several at the poorer ends of community. The case of Bengal shows this procedure well. The Company was unrelenting in revenue being composed in cash irrespective of the circumstances of the current harvest. This removed a significant cushion, which the peasant had throughout the previous regime and became a biggest reason of mortality and distress throughout the famine of 1769-70. But notions

of universal agrarian distress and a devastated peasantry would be in excess of pessimistic. The situation on the ground was more intricate. Agricultural reclamation beside the northern edges of the province and beside its estuaries was continuing robustly and the fruits of it were being mopped up through the *zamindars* and the *jotedars*. However the proof for this is patchy, few historians consider that *jotedars* in the northern fringes were behaving like ‘*kulak*-landlords’: providing credit and engaging in agricultural deal in excess of short distances. Rural stratification had increased in the course of the century, and its pace seems speeded-up throughout the latter section.

In south India, British intervention, while widening and deepening the routes of cash transactions, consolidated the location of the leading *mirasidars* since ‘village contractors’. Since David Ludden tells us, these *mirasidars* now began combining farming with revenue cultivation and regional stage agrarian administration. ‘Mahajan’ *mirasidars* used manage in excess of land, labour and several commercial assets to accumulate financial possessions that enabled them to contract for village revenues. But this was accompanied through a drastic transform in the social circumstances of the less privileged clusters that were pushed into social and economic subordination. David Washbrook illustrates how the Company’s direct intervention in south India consolidated two apparently contradictory units: traditional social dealings and contemporary laws of contract. The first was intended to preserve the existing social building, while the second was geared to expanding commercial opportunities, and both these were detrimental to the location of labour. While custom was upheld to legitimize traditional bonds of labour manage, agricultural wages were determined through laws of supply and demand, and enforced through an organization of contracts. The labourers, especially those belonging to the low-castes, therefore stood doubly deprived.

The Company was also a difficult commercial taskmaster. In its relations, the Company since a monopolist-trader was very harsh with producers under its manage, relentlessly enforcing the delivery of what was due to it and constantly attempting to depress the wages of the weavers in its employment. This made them very vulnerable to any sharp changes in the prices of food: highest famine mortalities were generally recorded in the middle of artisans working at the Company’s manufactories. In south India, Parthasarathi’s revise of weavers in the Coromandel also attracts a picture of rising artisanal vulnerability under the new dispensation. He illustrates that under the Company the weavers entered a new regime of labour manages, which removed several of their past entitlements, and this led to a sharp decline in their wages and economic status.

But what we necessity also keep in mind that this harsh regime did not cover the majority of cotton-textile weavers, at least not in Bengal, and several artisans supervised to discover loopholes in the organization. There was a vast internal market for the more general diversities of cotton textiles, while the luxury-end of manufacture hadn’t totally dehydrated up; and these meant that cotton textile

producers and upcountry cotton merchants could still do well even under these trying conditions. The silk industry is another good instance of this differential impact. While Bengal's silk exports to Surat had shrunk from Rs. 0.45 million in 1766 to Rs.0.03 million in 1789, the north Indian market looks to have held up well. In 1789 the upcountry consumption of raw silk from Bengal was worth Rs. 1.99 million; in 1790 it was pegged at Rs.1.68 million. In the meantime, the Company's investments for Bengal's silk had increased from Rs. 0.92 million 1766 to Rs.5.54 million in 1789. This had induced a structural shift of Bengal's silk from an internal to an international market with somewhat serious consequences. Any drop in the Company's investment for silk had serious repercussions for the silk-growers and the winders' incomes, and contrary to cotton, the subsistence of a little internal market for silk held out slim prospects of a limited recovery. Any improvement depended on the vagaries of the international market. An incomplete upturn in the 1790s was offset through a depression caused through the outbreak of the Napoleonic Wars in Europe, and it was only after 1813 that silk exports began to pick up from Bengal once gain. Through that time silk manufacture in spaces like Murshidabad and Rajshahi had already gone into steep decline.

Therefore, despite rising the scope, level and volume of commercial transactions, the end-result of the Company's intercession was to tie the Indian economy into the north European cycles of deal and manufacture. This integration wasn't new. It had begun with the rising in the seventeenth century with the steady expansion of European trading in India, and its great expansion in the early eighteenth century had speeded up the procedure substantially. The variation now was that key sectors of India's economy were henceforth tied into the vicissitudes of this global-economy, and downturns in the latter caused harm to these significant components of the Indian economy or foreclosed the possibilities of their autonomous development. While several Indians were able to enrich themselves enormously in the procedure, much of the profits accruing from expanded commercial opportunities were siphoned absent from India with small or no corresponding benefits to the country. There was rampant fiscal and commercial profiteering. Private British and European individuals made vast profits from revenue cultivation, from the expanding deal in opium or indigo, and from political corruption. These were mostly pumped out of India to East Asia, especially to Macao and Canton by the agency of private British shipping and Portuguese commercial homes, where it was used to create further fortunes for the European expatriates. The agency homes became the front by which the salaries, perquisites and often illegally made money through individuals were siphoned out of India. £17.67 million were taken out of Bengal alone by these channels flanked by 1757 and 1796. Much of the Indian capital in the service of private deal was therefore dissipated by such remittances.

The remittances of private fortunes were accompanied through the official transfer of substantial amounts of India's surpluses to Britain since tribute. This was the drain of wealth in its classic sense, which, understandably, has approach to inhabit centre-level in understanding the impact of the early-colonial organization on the India economy. While an estimate spaces the combined transfer under this head at £4 million in the 1780s and 1790s, lower estimates ranging flanked by £1.8 million and £1.92 million per year have been suggested through others for the era flanked by 1757 and 1793. Given the nature of the data, it is hard to set up incontrovertible figures, but these were indeed enormous. They were also unprecedented not presently because of their magnitudes alone. Enormous amounts of up to 1 crore rupees a year had been sent to Delhi from Bengal in the 1720s. The variation of the transfers under the tribute of the late-eighteenth century arose on the grounds that for the first time official channels of deal were used to transfer private fortunes. Additionally there was no mobility of labour and capital flanked by Britain and India to partially compensate for this loss since would have lived in the past when enormous amounts of imperial tribute being remitted from Bengal to Delhi in the past. Common economic indices though do not suggest that this drain had succeeded in paralyzing the Indian economy. Since discussed earlier, commodity prices held up well till the end of the century and there was no shortage of money. But what is indisputable is that transfers of such magnitudes from India were easing the huge deficits on Britain's balance of deal with both India and China, therefore leaving the Company free to divert its funds to the aggrandizement of India through enlarging the level of its subsidies from Indian dominations and through borrowing money from private Indian and European capital in India. India was now subsidizing the colonization of its own economy.

REVIEW QUESTIONS

- How did the soil conditions effect the growth pattern of agricultural operations?
- How far the environment influenced the cropping pattern during the medieval period?
- State various views pertaining to the village community during the medieval period.
- Compare the agrarian structure of north India with that of the Deccan and south India.
- How was the artisanal production organised during the medieval period?
- How was the craft production organised during the medieval period?
- Give a brief account of the nature of Islamic theory of taxation. To what extent the Turks and the Mughals implemented the Islamic practices?
- Write a brief note on various types of land tenures during the medieval period.
- Critically examine various approaches to study the medieval Indian towns.
- Explain the nature of coastal trade in the 16-17th centuries.

- In what ways Mughal coinage was different from contemporary south Indian currency system?
- Discuss the nature of technological change during the medieval period.
- How would you view the eighteenth century in the context of the regions emerging as vibrant centers of socio-economic activities?
- What continuities and changes do you see in the Indian economy in the late eighteenth century?

CHAPTER 4

Trade and Markets

STRUCTURE

- Learning Objectives
- Merchants and markets: 1757-1857
- Colonialism and trade: 1857-1947
- Review questions

LEARNING OBJECTIVES

After reading this chapter you will be able to learn about:

- Discuss the pattern of growth of India's trading economy in the seventeenth and early eighteenth centuries.
- Analyze the working of the *hundis* within the pre-colonial economy
- Discuss the condition of Indian merchants during the first half of the nineteenth century.
- Analyze the changing pattern of India's trade during the second half of the 19th century.
- Analyze the impact of railways on Indian markets and merchants.

MERCHANTS AND MARKETS: 1757-1857

The Backdrop: An Overview of India's Trading Economy in the Seventeenth and Early Eighteenth Centuries

Historical scholarship in the last three decades has considerably enhanced our understanding of the Indian trading economy in the early contemporary era. The range of India's commercial networks and the vitality of the Indian trading society is fairly well recognized information. No longer is Indian deal seen since being socially marginal or irrelevant or the Indian trader since few type of insignificant peddler of the Van Leur diversity. The overseas deal of the subcontinent was of impressive proportions dealing with both the exotic and the ordinary and solidly grounded on a lively internal market building, which was supported through a network of integrated commercial organizations since well since through links to the political and administrative establishments. India's overseas deal was characterized primarily through the export of textiles and a range of manufactured products and spices and the import of bullion. The centrality of merchants and markets in the working of India's economy leaves small room for doubt or ambiguity in relation to the nature, level or indeed, stages of growth of the Indian economy in comparison with the economies of

Western Europe. The Indian trader was not basically a peddler occupied in little, countless retail transactions in fragmented and volatile markets subject to chronic fluctuations. The site of the subcontinent in the trading organization of the Indian Ocean combined with the advantages of India's manufacturing potential that enabled her to lay at the world market textiles at competitive prices facilitated the growth of a intricate trading building that was impressive in volume and value.

Rurban Deal

The seventeenth century constituted the golden years of India's maritime deal. This was mainly the outcome of the stabilization of Mughal domination in the subcontinent and the consolidation of the Islamic ate in West Asia. Both these sets of political growths were instrumental in integrating the trading organization of the Indian Ocean giving it a pan Indian Ocean dimension and thereby producing a complex network of commercial swaps and movement of peoples and produce. Since the chief supplier of textiles, India commanded a special lay in the network exporting a vast range of goods and importing in return a substantial volume of bullion. These bullion imports fed directly into the Mughal mints that turned it in excess of into the regional coin, which was the principal instrument for both revenue payments since well since commercial transactions. The export deal was integrally linked with the subcontinent's internal deal by the twin mechanisms of bullion inflows and cash revenue payments. Since the Mughal state required the cultivators to pay land revenue in cash and not in type and furthermore in the regional coin, the pressure to market agricultural manufacture stimulated internal deal and absorbed the imports of specie that entered the stream of swap. An intricate hierarchy of markets appeared to channel the movements of an entire range of goods. Studies on this have suggested that for Northern India, there were three principal kinds of markets. At the lowest stage, rural produce was exchanged in makeshift markets – periodic, temporary buildings in big villages while the commodities traded in were mostly requirements of life. Directly these centers were local markets catering to deal again most in essentials but the volume of transactions was superior and the markets were fixed rurban centers described qasbas. The qasbas, were big urban centers that directed the deal in high value goods including a huge range of textiles for both elite consumption within the country since well since for overseas markets in the Indian Ocean. Here it may be worthwhile to keep in mind that the staple of the Indian Ocean commerce was medium and coarse excellence cloth that was extensively used through the populations of west and south East Asia. In excess of and above this hierarchy of markets was the extensive aloofness deal in grain transported in carts and through peripatetic societies such since the Banjaras. The volume of this deal is not simple to quantify but accessible clues would suggest that it was big. The Banjaras who organized the transport of foodstuffs through land on pack oxen had in

their big camps or tandas anything flanked by 12000 and 20000 bullock capable of carrying 1600 to 2700 tons of grain. Movements of grain responded to the requires of marching armies throughout a campaign and it would look that in the first half of the eighteenth century, when there was a marked augment in political decentralization, the grain deal actually expanded – a case of a war economy powering the deal in requirements.

Monetisation

The impulse for internal deal and the consolidation of markets was mainly the pressure exerted through the re-distributive mechanisms of the Mughal State in the shape of a vast revenue assessment and extraction. The emphasis on cash revenue collections and the incentive for cash crop manufacture to stratification in rural community and in excess of time to big-level peasant immiseration since the poorer of them contracted debts to pay the revenue demand. The thought of the self enough and in accessibled village is no longer seen since tenable for the accessible proof designates quite clearly that swap of goods was to be establish at every stage. Notwithstanding the dominance of existence manufacture and the one method flow of goods from village to urban center, the coexistence of deficit regions with those of surplus ones and the policy of the State to collect cash revenues generated pressures to sell and thereby stimulate deal and swap. In excess of and above this stage of swap, there was the steady growth of intra-local deal that testified to the rising integration of the Indian economy. The profusion of craft manufacture, of textile production inevitably drew upon a wide range of raw materials that were not always in the vicinity accessible. A case in point is the Gujarat, Bengal relationship, where raw silk imports from Bengal continued the silk industry of Ahmedabad.

Urban Centres, Market Spaces and Manufacture

India's export deal threw its own hierarchy of urban centers and market spaces. The centrality of textiles in the export deal meant that India's chief port municipalities were situated approximately an arc of manufacturing and supply centers. The chief ports of seventeenth century maritime India were Surat on the west coast, Hugli and Masulipatam on the east and southeastern seaboard respectively. The export deal since mentioned earlier centered approximately textiles that commanded flourishing markets by the century in west Asia. The deal of the North European trading companies constituted but one segment in this deal for the bulk of the textile manufacture was absorbed through markets in the Persian Gulf and Southeast Asia. Besides textiles, indigo, saltpeter, sugar and spices were significant export items, the movement of which was adequately supported

through the existing infrastructure of roads, communication networks and banking and insurance facilities. Therefore an exporting merchant based in Surat could attract on the produce of a wide hinterland extending since distant since Lahore and Burhanpur and Dacca. An interlocking organization of supply merchants and markets linked the port cities with the manufacturing interior giving rise to a hierarchy of market centers and intermediary merchants who functioned since brokers for the shipper and the export merchant.

While the great cities and port municipalities functioned since international concourse of merchants occupied in extensive aloofness deal, the manufacturing cities in the interior served since market centers where buyers by their mediators negotiated with sellers. Export merchants situated in port municipalities contacted common brokers who in turn worked by commodity brokers specializing in the supply of specific items. They in turn worked by under contractors or sub brokers who were directly in touch with manufacturers or artisans. Their access to the producers was contingent upon the existing organization of cash advances for manufacture. Here, it is significant to keep in mind that for the greater section of the seventeenth and eighteenth centuries, weavers and artisans were price workers and were technically free to turn in excess of their produce to the open market. The actual business of industrial manufacture or of production was organized in few cases through state or nobility sponsored factories or *karkhanas*. For the rest, the production was extremely much an individual action and in the case of textile manufacture, arguably the mainly significant row of production, the weaver and his loom constituted the vital element of manufacture. Admittedly, weaving since an economic action was a caste based job with specific clusters deploying their traditional skills in claiming a monopoly manages in excess of manufacture of specified items. This was especially true of textiles – specific caste clusters undertook the business of manufacturing dedicated cloth like red silk goods and resisted any efforts through other clusters to encroach on their preserve. The weaver was a self-governing artisan who owned his loom but was dependent on the intermediary merchant for cash advances to buy yarn and other raw materials. These cash advances became critical in a situation where the poverty of the weaver and his restricted access to markets forced the artisan to commit his produce to the creditor.

A number of significant monographs on the weaving industry in the pre colonial and early colonial era have tended to stress the similarities flanked by the putting out organization in Europe and the Indian way of textile manufacture that relied on the organization of commercial advances. The organization was dissimilar, for in the Indian case, the advances were approximately always in cash and never in raw materials. The weavers needed working capital to buy raw materials and to support them throughout the season of production. Since the Committee appointed through the English Company to ask into the failure of the Surat investment in 1794 commented, it was only by

the under contractors that the weavers establish regular existence 'through acknowledging submission to a people who pay them frequently for their job since it comes from the looms besides occasionally assisting their exigencies and supplying them in sickness'. K.N. Chaudhuri argues that implicit in the organization of advances was the thought of a contractual obligation on both faces. Presently since the merchant was assured of getting his supplies on time with a reasonable degree of certainty, the weaver regarded the advance since a deposit on orders. Once the money was delivered to the weavers it created at once a short-term supply monopoly. This meant that if the buyer for few cause did not accept the product they would have to forfeit the deposit. Of course merchants took precautions to minimize this risk but throughout circumstances of growing demand and a responsive market, weavers could often use the situation to their advantage. In information it was precisely on this issue that the English East India Company faced a running battle with the artisans and the intermediary brokers for the rejection of items supplied on grounds of even technological deficiency resulted in the weavers selling the rejected goods to other buyers at attractive prices.

Merchant Shipping

The variety of markets and the overlapping stages of deal establish reflection in the Indian entrepreneurial building that accommodated big wholesale merchants with access to substantial capital assets and warehousing facilities and little retailers who combined peddling with pilgrimage. The hierarchy in India's commercial community was the product of both sociological and functional impulses. Ashin Dasgupta spoke of the dichotomy flanked by the Muslim shippers situated on the coast and the Hindu financiers and brokers whose business was mainly shore based. Neither of these categories were fixed – the taboo on sea travel for example did not apply with the similar force in the Coromandel, where Hindu merchants invested in shipping and performed physically voyages to southeast Asia. In Surat, Masulipatam and Hugly, the principal ports of maritime India in the seventeenth century, the mainly affluent cluster was the ship-owning merchants who operated the business of export and freight. Examples of this category were the Chellabys and Ghafurs in Surat who owned ships, traded on their own explanation besides letting out cargo legroom for the area's freight deal. A ship owning merchant usually earned his profits in three methods. He could hire out a ship to more than a single merchant through taking on a cargo of goods on commenda: the ship owner guaranteed to pay the shippers the value of the goods and the agreed ratio of the profits unless the goods were not sold for few cause. Alternatively, the ship owner could become a merchant in his own right through borrowing money on bottomry; the ship itself in this case becoming the security for the loan and whatever money was paid after paying the loan and the interest constituted the ship-owner's earnings. Finally the ship-owner could borrow at respondentia – the ship-owner agreed to

sell the goods on board since in commenda, returning the value of the loan including the interest but only if the goods arrived safely at their destination. Of course in a single voyage all three processes could be used since indeed, they were in seventeenth century Surat, where ship-owners reserved a section of the cargo legroom for their own exploit. In information, a big proportion of the profits came from the proceeds of the freight business, which they monopolized. They let out their ships to pick up the season's freight for which there was sizeable demand from in the middle of the multitude of the municipality's little traders – Patani Bohras, Parsis and even Hindu/Bania clusters. The latter constituted a significant segment in the trading hierarchy – persistent in their commercial pursuits; they could not be driven out of business through rich merchants no matter how influential.

Banias and Sarrafs

The shore based Hindu and Jain merchants, often called collectively since Bania who traded on their own explanation, and performed a diversity of inter-dependent commercial functions, engaged the second stage in the trading organization. These related to the business of brokerage, retail and supply and banking. In the Coromandel, the Chettys – the regional commercial caste, combined banking and brokerage with sea deal while in Bengal the supply and banking sectors was shared flanked by regional commercial clusters and resident merchant clusters from Western and Northern India. In addition, there were the Armenians – the mainly significant Diaspora cluster and called through K.N.Chaudhuri since 'highly skilled arbitrage dealers who urbanized geographically mobile shapes of commerce with an skill to measure risks of overland deal' The banking sector was particularly well articulated in course of the seventeenth century and was in the hands of Hindu clusters described *sarrafs*, who financed the manufacture of deal and the marketing of imports. The principal rationale behind the institution of indigenous banking in Mughal India was the overriding requires to convert imports of bullion into regional coins, the only admissible currency for all transactions. *Sarrafs* or moneychangers operated the business of assaying or converting all coins – foreign, old into the coin of the realm and worked in tandem with the Mughal mints whose capability was stretched particularly throughout the peak trading season. The mints too were under manage of the *sarrafs* who farmed the minting rights.

Sarrafs also operated the *hundi*, which possibly constituted the mainly significant and distinguishing characteristic of the Indian banking organization. Basically put, a *hundi* was a bill of swap promising payment after a specified era 'generally two months or less' at a scrupulous lay and allowing a discount which incorporated interest, insurance charges and cost of transmission. *Hundis* became in course of the seventeenth century the principal instrument of remittance and the average shape of payment in all commercial transactions. In extensive aloofness deal, this shape of payment

not only met the necessities of an expanding demand for credit, but reduced the risks involved in the physical transfer of money crossways uncertain frontiers. The *sarrafs* issued and discounted *hundis* that enjoyed through the end of the seventeenth century long circulation not only within the subcontinent but also beyond in the trading ports of the Indian Ocean. The working of the *hundis* was since follows. Bankers took the responsibility of transferring finances from one centre to another and would charge for the service an amount, which depended on a number of variables. For example this would take into explanation the volume of traffic flanked by the two points in question, the swap rate flanked by the two points and the *sarrafs* own charges. Broadly speaking *hundis* were issued and discounted in two methods. The first was to attract money from a sarraf against a promise to pay him in another city where the *hundi* would be presented before the banker's agent. The alternative was to pay cash down to the banker with a promise from the latter that the money would be recovered in the selected destination on presentation of the *hundi*. In the former case, the sarraf's charges were higher as the risk devolved on him was correspondingly higher and because there was a time unit involved. The person who drew the money had exploit of it for an era of time while the *hundi* matured. Flanked by the mid seventeenth and the first quarter of the eighteenth century, the exploit of *hundis* grew more intricate and pervasive since networks proliferated and became more enmeshed. Biggest transfers became possible crossways far areas and attracted the comment of eighteenth century observers like Muhammed Ali Khan, the author of the *Mirat-i Ahmadi*. "Instead of collecting cash", wrote Ali, "the possessor of the *hundi* could provide it to one of his own debtors and therefore free himself from that obligation. Not only this, likewise he may transfer it to another, until it reaches a person against whom the drawee of the *hundi* has claims and who, so surrendering to the latter relieves himself of the debt" Therefore, in other languages, *hundi* had become a shape of money which was exchanged against cash at a sure rate. This practice later recognized since *anth* grew rapidly in the eighteenth century and we shall have occasion to talk in relation to the later level.

The social foundation of the merchant clusters was through and big confined to specific Hindu castes that may for the sake of convenience be called since bania. This was an occupational-cum caste category that incorporated commercial castes, both Hindu and Jain and occasionally Brahmins like the Nagars who in Gujarat had taken to the commercial calling. There were other castes like the Khatris in the Punjab and U.P., the Chettis in the Coromandel all of whom place claims to few sort of Vaisya status in the caste order. The Muslim merchants, Bohras, who dominated the shipping and export business, were in Gujarat for the mainly section although there were significant Turkish clusters since well. In the Coromandel, there were the Chulias or Marakkaiyars, an endogamous body of Tamil speaking Muslim merchants who dominated the deal of the southern Coromandel. Caste and society variations would not seem to have impeded the

working of the trading organization – the whole building was predicated on a measure of cooperation. Informal associations, linkages with the ruling domination building and personal friendships were significant since mediating powers that on occasion could even deflect the market. To conclude, one may on the foundation of existing job suggest that the non-agrarian sector of the Indian economy had evolved by the sixteenth and seventeenth centuries into a dynamic and integrated organization responding to market forces and capable of generating a degree of capital accumulation. Irfan Habib in his classic essay on the ‘Potentialities of Capitalist Growth in Mughal India’ argued that from the point of view of merchant capital, the economy had reached a fairly advanced level. Though, he added the caveat that the credit and banking organization, which was arguably the mainly impressive component of the economy, catered primarily to commerce. There was no provision or indeed predilection for any shape of proto industrial investment or experiment or technology. The take off therefore was not a foreseeable possibility. Equally significant were the constraints that accompanied the workings of the Mughal revenue organization that was intrinsically exploitative and through it’s extremely nature bound to break down under the weight of its internal contradictions. Practically no rural market lived for urban crafts and therefore when an agrarian crisis urbanized; it was bound to extend to the whole economy. Capital had failed to develop a self-governing foundation for itself – its fortunes place with the Mughal ruling class and the organization they represented. Therefore when the crisis came throughout the eighteenth century, merchant capital floundered and faced the mainly serious challenge ever. The high profit margins that the merchants had been used to created a sort of complacency and restricted the possibility of technical innovations. The outcome was disastrous when the twin pillars of political order and a sustainable demand market collapsed in the aftermath of Mughal decline and the rising ascendancy of the English East India Company.

The Eighteenth Century Crisis and the Prelude to Colonialism

The crisis of the eighteenth century has been in recent years one of the mainly debated issues in Indian history. Was the century an era of unmitigated decline leading inevitably to the British conquest of Hindustan? Was it a century of big-level decentralization, when the area came into its own to produce separate cultural and social formations? Was decentralization coterminous with decline or was that extremely much the product of a scrupulous reading that was only since valid since an alternative understanding of the similar phenomenon? These are questions that have cropped up in course of the debates flanked by nationalists, Marxists and later revisionists and as suggested, have occasion to refer to these when we set out to identify few of the more significant growths that

characterized the reorganization of markets and merchants networks in course of the eighteenth century. For the moment we shall focus on the actual components in the crisis – in other word locate the changes in the existing political and commercial systems following the decline and collapse of the Mughal Empire in the first half of the century. The local manifestation of the political crisis was not uniform – Bengal prospered in the first half of the century and grew stronger while Gujarat underwent a serious crisis in conditions of political power and economic continuity. And yet given the degree of integration in the Indian Economy, it was only natural that the crisis affected all the areas in one method or the other especially in the sectors of deal and swap.

The Crisis

What constituted the eighteenth century crisis? Basically expressed, this amounted to the slackening hold of the central power in Delhi in excess of its provincial governors, the failure of the provincial authorities to extract revenue from regional agrarian community and manage regional magnate power or quell agrarian revolts, the virtual collapse of communications and networks that hampered the simple movement of goods and credit, the contraction of demand on the section of the Mughal ruling class for manufactured goods and items of deal and the total collapse of all governance. This coincided with the disintegration of Muslim domination in west Asia and the steady expansion of European private deal in the Indian Ocean at a time when profits from overseas deal were already under pressure. The result was a series of cataclysmic blows to the overseas trading sector and to the regional merchants who faced a two pronged crisis from in relation to the second decades of the eighteenth century. There were local differences to this story but none that could offset the consequences of the convergence of Mughal decline and European commercial penetration. The vulnerability of the Mughal political edifice was evident even since early since the closing years of the seventeenth century. With the death of Aurangazeb in 1707, the emergence of factional politics in the imperial court, widespread rural disturbances in the areas and the eruption of Maratha raids in Hindustan created an unprecedented situation of insecurity. In Gujarat itself, the premier maritime *suba* of the Mughal Empire, the crisis assumed an intricate aspect. The rising separation of the area from the hinterland, a direct consequence of Maratha raids compounded with the fissures within the area's political organization to produce a very volatile situation for regional merchants. The contraction of the hinterland deprived Gujarati traders of the markets of Northern and Central India, where their import items were generally marketed. Of greater consequence was the collapse of the management within the area after 1720 when the incursions of the Marathas and their job of the *Athavis* in 1723. The *Athavis* was a conglomerate of twenty-eight villages from where Surat had traditionally drawn her revenues. Imperial dictates after 1720 lost their teeth since

every Mughal official began to covet the lucrative posts within the management. In Surat the posts coveted were those of the *Mutasaddi* and the *Qiladar* and the Admiralty of the Imperial Fleet. With a collapsing revenue building, the management took recourse to a policy of mercantile taxation precisely at a time when profits from deal were flagging, the merchants responded to the crisis through agitating against the municipality management but only with limited success.

Rise of European Private Deal

The consequences of these growths on Surat's deal can be easily imagined. The loss of markets in Hindustan jointly with circumstances of instability in West Asia undermined the foundations of Surat's prosperity. Since early since 1707, when Gujarati shipping was at its height, the increased volume of Gujarat's exports had glutted markets in the western Indian Ocean therefore much therefore that voyages had proved unprofitable. The situation deteriorated even further with the expansion of British private deal. Asian shipping gave method to British private deal since regional freighters preferred to invest their cargo on European bottoms in the hope of bigger defense against the rising problem of piracy on the high seas. The traditional trading order, which had therefore distant revolved approximately Surat's preeminence and the leading role of her merchant shippers cracked up in the wake of political insecurity and European competition. Merchant protest proved ineffective for it neither arrested the decline of the municipality's deal nor the decay in the administrative organization. It was, though, instrumental in introducing the English East India Company since a potential protector and political aspirant and in facilitating a new alignment flanked by parts of the municipality's commercial population and the English East India Company. This in turn became the prelude to early colonial manage in the area.

Decline of Indian Ports

The effects of the political crisis were evident therefore distant since the area's deal and markets were concerned. The value of Surat's export deal dipped from 16 million rupees in 1700 to 6 million in 1740s and never recovered in the decades to follow. The crisis of the export market had its inevitable repercussions on the internal trading and fund building that had continued it in the past. The *hundi* network was seriously undermined since merchants and European factors establish it increasingly hard to avail of credit. Interest rates escalated and Surat suffered from a wave of bankruptcies. The contraction of bullion imports affected currency – through the 1760s the problem of debased currency became serious. The Muslim shippers were in the middle of the mainly adversely affected since the competition of European private traders and their rising political power

in the municipality cut into their ventures. Bereft of any defense from the state, they failed to put up an effective resistance against the aggression of the English traders who steadily encroached upon the freight deal turning it in excess of into a virtual monopoly through the 1750s.

The decline of Surat was paralleled through the decay of Hugli on the east coast. The old port municipality made method for the growing English center of Calcutta and British shipping. The ramifications of the Mughal crisis were markedly dissimilar in the Bengal *suba*. Here, a succession of competent governors had built up an efficient management through securing the cooperation of the regional elite clusters – magnates and bankers who played a basic role in the machinery of revenue administration and collection. The benefits of internal security and development did not, though, insulate the province from the superior effects of the eighteenth century crisis or from the aggressive expansion of English private deal. The decline of west Asian markets did not leave the Asian merchants in Bengal entirely unaffected. Further, the Surat-Bengal deal in raw silk and cotton entered an era of rapid decline especially after 1765 – a growth that adversely affected the credit networks. The rising menace of piracy in the high seas aggravated the situation since more and more merchants preferred to tie their cargo with English country shipping. In Bengal since elsewhere, English private deal edged Asian competition altogether in the sector of export deal and freight. The first half of the eighteenth century also saw a corresponding expansion of European commerce in Bengal bringing in its wake, rising imports of silver, employment opportunities for supply merchants and weavers with the result that the commercial and banking sector sustained to grow and symbolize a dynamic component in the Bengal economy. Though, the displacement of Asian merchants shipping, the rise of Calcutta and the English private traders and the articulation of their aspirations, the fall out of the commercial crisis of Hindustan on Bengal's inter-local and coastal deal did not bode well since future growths indicated.

Both the intensity and spread of Maratha raids in Hindustan and the revolts of peasant castes like the Jats and Sikhs against Mughal power in the heartland and the Punjab resulted in a serious agrarian and commercial crisis. Agricultural manufacture suffered while the connecting linkages flanked by agriculture and deal were severely disrupted. The intricate grid of markets and communication networks that had supported India's internal and export deal collapsed leading to shortages of manufacture, currency deficit and urban decay. The European Companies in Western India, for example, commented extensively on the shortage of yarn and other raw materials that weavers faced since a result of the Maratha raids and the abandonment of looms through artisan clusters and the subsistence of famine like circumstances. The big level incidence of Sikh revolts in the Punjab, the Afghan and Rajput uprisings in the Awadh area played havoc with the inter local traffic in the 1720s resulting in a severe shortage of cash in the Punjab and the Delhi- Agra area. The

phenomenal expansion of English private deal in the Indian Ocean had distant reaching effects. Not only did it adversely affect the operations of Indian traders, it fostered a rising tendency in the middle of Company officials and private traders to intervene in the local political set up and manipulate the prevailing disaffection to their advantage. Even before the articulation of such political ambitions became a tangible factor that threatened to alter the existing equations of domination, the power of the English East India Company had become a critical determinant in the realignment of India's overseas trading organization. The Company's monopoly manages in excess of the freight deal meant that the Muslim shippers were displaced and that their hopes of readjusting to the crisis were slim. At the similar time, the rising strength of the Company encouraged regional merchants whose interests were not immediately threatened through the Company's behaviors to contemplate a closer partnership with the Company since a counterpoise to the decaying Mughal management and to the threats of the Maratha contenders. Collaboration of a sort was therefore built into the emerging building of colonial dominance and served to inflect the procedure of realignment in India's trading sector.

Early Colonialism and India's Foreign Deal 1757-1800: Two Case Studies

The expansion of British private deal in the second and third decades of the eighteenth century emboldened the Company servants to manipulate the existing political set up to their advantage. Without entering into the debate whether the English take in excess of in Bengal was through design or accident, it is significant to stress the information that the Company authorities from in relation to the 1740s strenuously attempted to extend their privileges and were prepared to resist the regional management in the side of any encroachment – real or perceived. In Bengal, these 'privileges' assumed the shape of extending the provisions of the Mughal *farman* of 1717 for carrying on duty free deal, to fortifying their trading resolution in Calcutta and even extending defense against fugitives escaping Mughal law. In western India, the focus of Company politics was manage in excess of the Imperial Admiralty that would facilitate and formalize the Company's attempts to dominate the shipping in the Indian Ocean and to provide Company servants in Bombay and Surat a decided edge in excess of the area's freight deal to the Gulfs of Persia and Arabia. The strategies adopted through the Company towards their political project place in forging connections with significant regional clusters, potential collaborators against the ruling management. Assuming the role of protectors and patrons of client clusters against the arbitrary Mughal management, the Company represented their interests with threats of force and succeeded through the late 1750s in structure a viable support foundation for their ventures. The strategies produced the desired results –

backed through merchants, magnates and other disaffected clusters, the Company assumed effective domination in Bengal and Surat in 1757 and 1759 respectively. These victories enabled the Company to become a biggest player in local politics and exploit the benefits of political office to pursue their commercial interests. The take in excess of had significant implications and since the Company enforced events to dominate the carrying deal and to achieve a monopolistic manage in excess of the purchase of export items, the economy suffered from sure distortions.

The effects of Mughal decline and of the expansion of the English East India Company in the deal of the Indian Ocean did not spare any scrupulous merchant cluster even if few fared worse than others. But did this mean that the trading economy went totally under even before the historic date of 1757 that inaugurated a new period in the commercial development of the English Company? For it is significant to keep in mind that it was not before the end of the eighteenth century, that the nature of India's overseas deal changed considerably and she became a supplier of primary goods oriented entirely to the requires of the metropolitan economy. This Part proposes to analyze the nature and functioning of the India's trading economy in the critical half century of transition, to examine the status and strategies of India's merchant clusters since they struggled to approach to conditions with altered reality embodied in the emergence of the English East India Company since the dominant player in the economy. We shall concentrate on two areas – Bengal and Western India, two rather atypical and contrasting cases – one, where the effects of Mughal decline were particularly acute in the first half of the eighteenth century but one that survived bigger the early colonial onslaught, whereas the other which escaped the tyranny of Mughal decline but which was the first to go under in the side of early colonial penetration.

Decline of Surat

For purposes of convenience, the revise will be divided into two time eras – one flanked by 1757-1780, when the traditional building and orientation of India's overseas deal continued an irreversible and biggest dislocation subsequent to the establishment of the English East India Company's monopolistic manage in excess of shipping in the Indian Ocean and the other flanked by 1780 and 1818, when Indian merchants attempted to adapt to the changing circumstances. Also through 1818, the colonial economy had been put in lay and the decisive shifts in the building, orientation and compositions of India's deal had been registered. For Surat, the figures of decline are pretty dramatic. Ashin Dasgupta spoke of a severe slump in the value of deal from 16 million rupees in the last years of the seventeenth century to 3 million in 1740 – a trend that sustained right by the century. The expansion of English private deal in the western Indian Ocean in the 40s and 50s of the 18t: century, documented through Holden Furber was an additional factor that aggravated the

commercial crisis of the Indian merchants. The assertion of English private deal became in effect a biggest determinant of the Castle revolution of 1759, when the Company assumed charge of the Imperial Admiralty, Surat castle and shared domination with the ruling Nawab. The transformation of the Company's political status enabled the authorities to consolidate their commercial ventures even if the markets in west Asia remained sluggish. Beginning approximately the 1720s, the private deal of the Company was dominated through the attendance of senior servants at Bombay and Surat. Both the Governor of Bombay and the Chief of Surat exploited their office to further their private trades. Furber provides us a detailed explanation of Robert Cowan who was extensively occupied in private shipping and freighting and was eventually dismissed from Company service in 1734. Henry Lowther, Chief of Surat and William Wake, Governor of Bombay was significant players who made exploit of their location and entered into partnerships with regional notables to prosecute a vigorous deal. What is significant in the story of Bombay's private deal is the rising resolve of the English merchants to wrest political manage for commercial ends. Their confidence derived mainly from the rising success of the Bombay Marine – the Company's naval force – in eliminating rival claims in excess of maritime jurisdiction, thereby claiming manage in excess of navigation and shipping. Indian deal and shipping had to accept English colours and the defense of the Marine if they were to traffic at all. The visible expansion of English shipping was not since yet at this level accompanied through a fundamental alteration in the orientation of Maritime India's trading building. European deal remained oriented to traditional markets and dealt with traditional commodities. The transform was therefore, at least in the first stage restricted to the rising European preponderance in the carrying agency and the resultant displacement of traditional Muslim mercantile clusters.

The Castle Revolution of 1759 mainly sponsored through Surat's Hindu merchant clusters and through the English servants in their capability since interested private traders introduced significant transform as the political set up. The Company assumed the location of *Qiladar* and with it enjoyed considerable dominations of mediation in the municipality's management. This enhanced their commercial advantages. Michelguglielmo Torri has argued that the Revolution enabled the private traders to formalize the monopoly manage in excess of the municipality's freight deal. Of the officials occupied in the Gulf deal, the mainly prominent were W.A. Price, Chief of Surat, and Thomas Hodges, Chief of Surat and Governor of Bombay. The first level in the enforcement of the monopoly was taken in 1759- 60, when it was announced that only those Surat ships hired through the English Chief and chartered through him to the municipality freighters who wished to send goods to the Gulfs would be allowed to proceed. What this in effect meant was that the ships of the English Chief and those of his favorites had exclusive rights to proceed first. At a meeting described the Noorbundy, the English Chief conferred with the shipper freighters in relation to the rates of freight

prevailing that season and also the commission due to the English Chief and then given permission to pick up the season's freight? Others were not technically prohibited from creating self-governing voyages but the Chief had enough domination to render these hard if not impossible. We approach crossways a number of disagreements with senior Surat merchants like Mulna Fakirodin in the Mayor's Court.

The workings of the monopoly did not always go since anticipated. Since Torri has shown, the interests of the Surat Chief were occasionally at variance with the English representatives in Basra who complained to the Court of Directors. Also the Muslim merchants by their contacts with the Turkish authorities had occasion to forward their complaints to London with the result that regulations to free the deal were introduced in 1769. These regulations prohibited all discrimination and ordered that all merchants, 'whether Muslim, Hindu or Parsi or English' were free to put up their ships for freight for the Gulfs of Persia and the Red Sea. On paper, these regulations threw open the freight deal, since merchants no longer had to cope with the excesses of the Surat Chief or Bombay Governor. Though, these were late in coming and did not immediately restore the situation. Though, Torri argues that the Muslim merchants of the municipality did succeed in regrouping and recovered significant ground through the closing decades of the century. While there is little proof of the incomplete revival of Muslim shipping and the initiative of the Muskat Arabs in the deal of the western seas in the last decades of the century, it is hard to argue for a Muslim recovery therefore to speak. There is small doubt that the Gulf deal sustained for the greater section of the century to operate at extremely low stages and that the older 16 million spots were never repeated. The displacement of the Muslim ship-owning category was irreversible and the cluster was never able to recover its former location of advantage. The undermining of the English monopoly in the 1770's did not redress the situation for deal itself through this time was on the wane. The collapse of Gulf markets following circumstances of political insecurity in west Asia and the diversion of European commercial interests in China boded fundamental changes for India's trading building.

The society of non-Muslim merchants – the Banias and the Parsis fared bigger under the circumstances of transition. For one, their interests did not immediately conflict with those of the English private traders. Their investment in shipping and the freight deal was only marginal with the result that they were quite prepared to switch to English carriage. Further, their services since brokers and bankers made them indispensable for the conduct of English deal. In Western India, the relationship was particularly significant. Here, a combination of conditions resulted in the formation of a critical partnership flanked by the English Company and the Bania society, the latter emerging since key financiers of the Company's deal and politics. The comparative success of the Banias was made possible through their access to capital and credit instruments that became basic for the

subsistence of the Company in western India. This is not to suggest that the society did not side the pressures of declining demand, of capital shortage or the contraction of Surat's Gulf deal. What looks to have happened was that following the stabilization of Indian politics approximately the 1780s when there was an incomplete reintegration of trading networks in Hindustan and Central India; the Bania merchants were able to adapt to the changing situation and consolidate their business since supply merchants and financiers. Therefore, since Lakshmi Subramanian has argued, whereas the emergence of the Anglo-Bania order had occurred in an era of languishing deal and political crisis immediately preceding the Castle Revolution, its consolidation was accepted out in circumstances of resurgence and revival of deal. That brings us to the second stage in the era of transition, when following the stabilization of English domination in Eastern India and the consolidation of indigenous regimes like those of Mysore, Hyderabad and the Maratha domination in the Deccan and Central India, there was a incomplete integration of trading channels and credit flows in the hinterland.

The Case of Bengal

Growths in Bengal's trading economy in the years immediately following Plassey tended to affect more adversely the regional merchants and their trading networks. Since distant since Bengal's overseas deal was concerned, the rise of the Calcutta fleet had through the 1740s displaced the regional Asian shipping operating from Hugli. The more significant extensive- term transform was the shift to the east – the therefore-described commercial revolution in the Indian Ocean that Furber later elaborated. From in relation to the 1760s the focus of English shipping and deal in the Indian Ocean moved from the declining west Asian markets to the ports in Southeast Asia and China. This was the harbinger of the new colonial economy that went beyond the traditional Asian networks to make a new set of global linkages adhering to the imperatives of the metropolitan economy.

The results of the British take in excess of on Bengal's internal economy were even more brutal. The assertion of political domination through the Company was an effective weapon in the removal of limits on private deal. The Company servants could and did create exploit of the political transform to claim the right of exemption from custom duties, regional dues and to challenge the workings of recognized state monopolies. The 1757 grant following Plassey that confirmed the British trading privileges in Bengal, the guarantees that goods bearing the Company's *dastak* would pass without paying traditions resulted in an unprecedented expansion of British private deal. Not only did this affect the custom receipts of the Bengal Nawabs, it posed grave threats in conditions of law and order forcing the Bengal Nawabs to confront the Company. The confrontations were in vain since the English traders eroded the traditional preserve of regional merchants, and aggressively

trafficked in opium and saltpeter. The rising investment in Bihar's opium was in itself the product of the burgeoning China deal, the dynamics of which reflected all too clearly the emergence of a colonial economy and a new trading dispensation. Indigenous supply merchants were squeezed out of business since the Company exercised monopoly manages in excess of the saltpetre and opium business. Even earlier, the textile deal had approach under greater supervision with the result that the status of the artisan and merchant changed. From being self-governing price workers, they became Company weavers forced to commit their produce to the Company appointed *gumashtas*. The decay of manufacturing cities like Dacca and the collapse of the indigenous merchants – Seths and Basaks – testified to the changes that had set in Bengal are trading economy. The subordination of the economy to the necessities of the English Company's global commerce worked itself out in the closing decades of the eighteenth century, which witnessed the configurations of the colonial economy.

In conclusion, one may suggest that in the era of transition flanked by 1757 and 1780, the Indian economy was subject to a diversity of pressures, which threatened to alter the foundation and orientation of the traditional buildings of deal and merchant networks. Admittedly, the orientation of India's deal remained with traditional Asian markets and on the bi-lateral swap of goods for specie. K.N.Chaudhuri in information made this point when he argued that Indian deal for half a century after 1757 sustained to operate beside traditional channels and its composition was based on the swap of fine textiles, foodstuffs and other materials for valuable metals and manufactured products. Though, the behaviors of the Company in controlling the freight and shipping in western India or in controlling the supply of export goods in Bengal were not without consequence. In Bengal, the elimination of the rival European trading Companies and the regional Asian merchants resulted in an extensive-term decline of Bengal's European commerce. After 1765, with the Company's acquisition of the *Diwani* that gave them the right to the revenues of Bengal, Bihar and Orissa, there was a rising tendency to deploy Indian revenues in deal. This affected the imports of bullion into the economy resulting in serious deficits of coin. The ruthless expansion of private traders in the internal deal of Bengal undermined the moral economy and left merchants and bankers permanently crippled. The impact of Company manages on weavers, in order to monopolise their produce severely affected the artisans since they were compelled to submit to the Company's coercion. In western India, the situation was somewhat dissimilar. The Company was presently one player in the middle of several and did not enjoy the benefits of a close revenue foundation. Consequently it was critically dependent on regional financial support. The continuing importance of the Gulf demand for Western India's textiles meant that the weavers and merchants could not be forced to produce exclusively for

the Company. It was only at the extremely last years of the century that the Company could contemplate extension of coercive events in western India and that too extremely tentatively.

Local differences in economic performance were closely connected to the timing and nature of British political penetration. These have added fuel to the more recent debates in relation to the nature of the early colonial impact on the trading economy of eighteenth century India. We shall have occasion to refer to these once we plot the growths that followed in the closing decades of the eighteenth century, when gradually but inexorably the colonial economy was assembled. From in relation to the late 70s and 80s of the century, India's overseas deal changed direction although it was not before 1800, that the outlines of the new economy became perceptible.

The Final Years of Transition 1780-1800

The post 1780 situation saw the rising power of the Calcutta and Bombay trading ports and their impact upon the nearest hinterland economies. In section these consequences signified the end of an older trading order and the slow and sometimes approximately ad hoc assembling of the colonial economy. Though, for mainly of the era, the imperatives of early colonial deal constituted a significant but not exclusive determinant in the realignment of merchant, market and credit buildings in the subcontinent. The imperatives of Company deal, constituted an extremely significant but not an exclusive determinant of the country's trading economy. The realignment of merchant and market networks in the last decades of the eighteenth century were since much in response to the emerging colonial factor since they were to indigenous stimuli that came in the wake of the new balance of domination that the attendance of the Maratha Confederacy and other local polities like those of Hyderabad, Mysore and even the Punjab represented. C.A.Bayly in this relationship, has argued that the early colonial economy in India had indigenous origins in the sense that the external or colonial demand factor converged with the internal one to produce a situation that generated a diversity of opportunities for commercial clusters and stimulated a measure of urban development apparent in the rise of cities like Nagpur, Mirzapore and Benaras.

The political context for the trading economy of India in the closing decades of the century was determined mainly through the expanding attendance of the English east India Company and through the stabilization of Maratha domination in central and western India. The rise of the cross-country deal circuits gives us an instance of the reintegration of commercial and credit connections that followed in the wake of tribute payments that tied up the regions of the Maratha Confederacy with its center in Poona. The annual movement of tribute payments from Baroda, Ahmedabad, Nagpur and Gwalior to Poona working simultaneously with renewed pilgrimage traffic under

Maratha patronage stimulated commercial swaps that in turn fed into the expanding deal of the Calcutta and Bombay commercial poles. For instance, Bombay's deal with Poona was therefore impressive even before 1770 that Charles Malet, the English Resident in Poona had occasion to remark that 'a state of hostility with this empire small affects the commercial intercourse which necessity be attributed to its being in the interests of the farmers of the traditions and landholders not to impede the intercourse and since to the latter, it necessity certainly ever be our interest to promote it'. Though, through the 1790s, Bombay's deal with Gujarat – the cotton bowl of the area – became perceptibly more significant in view of Bombay's rising deal in raw cotton with China. This coincided with the emergence of a further row of dependency tying the eastern Maratha domain to the Calcutta commercial pole: Rising Bengal demand for raw cotton from the Maratha cotton bearing tracts in Central India like Amrawati and Nagpur by Mirzapur stimulated the development of transitional sized cities occupied in the supply of cotton. This was a genuine case of transition – drawing from both regional stimuli since well since from the pressures of a changing external situation. The rise and development of Mirzapur and of Benaras since a financial center supporting the cotton deal best shows the dynamics of a trading economy in transition. The context for the emergence of Mirzapore was provided through the rise of cross-country deals supported through the transactions of the Maratha Confederacy and the operations of the English East India Company. The latter's financial operations resulted mainly from the dispatch of the Bengal surplus into the deficit presidencies of Madras and Bombay funneled by the existing credit network of Indian financiers and dovetailed into the inter-local commercial network. To begin with, both these factors were significant in the reactivation of the cotton traffic flanked by northern, central and eastern India. Through 1776, Mirzapore had appeared since the great cotton mart of the Benaras district and Benaras the great financial capital of the area.

Enjoying the benefits of political security under the Rajas, Benaras became a key conduit for the cotton deal and a biggest center of *hundis* that financed both the tribute transfer operations of the Awadh Nawabs and the English Company since well since the cotton deal of the regional merchants. The steady development in Maratha demand for silk and luxury fabrics since well since coarse textiles for the armed forces began to exert a strong pressure on the area's balance of deal situation and it became clear that the area was on the verge of a huge take off. Therefore Bayly argues that the internal demand factor represented through the Maratha necessities had already gone an extensive method in creation Mirzapore's commercial reputation and its accessibility to the English Company. Therefore when the time came, it proved simple to expand the cotton deal for the purpose of re-export, first to Bengal and then to China. In other languages, indigenous growths had created a situation of expansion and version in Mirzapore and Benaras both of which, thereafter could adjust to

the emerging colonial situation. The colonial factor worked therefore. From the late 18 century, Bengal was not in a location to meet the demands at Dacca and Murshidabad for medium and high excellence cloth. This coincided with an unexpected growth in 1784, when it was decided to bring cotton overland from central India and Bundelkhand to be transported through river to Bengal. This spurred the development of cities like Kalpi, Farrukhabad and Mirzapore and Agra that were already beginning to play a nodal role in the inter-local commerce of textiles and cotton. The year 1784 was a turning point for the reduction of duties on tea in Britain created a strong demand for the commodity. But tea could be bought only in swap for raw cotton, which created a vast demand for the product. The subsequent rise in the price of Gujarat's cotton made it profitable to import Mirzapore cotton. In information the relationship became therefore secure that flanked by 1790 and 1820, the price of cotton at Mirzapore depended entirely on the comparative prices in China, the anticipated demand there and the quantity likely to be produced in Gujarat.

The gradual reorientation of the Indian economy to the pressures of Company deal was not without benefit to Indian commercial clusters. While the displacement of India's traditional deal had undoubtedly undermined Indian shippers and exporters forcing them to play a subordinate if not nonexistent role in the changing set up, the realignment of markets and merchant networks in the half century of transition enabled the regrouping and deployment of merchant capital in the proto colonial deal of the late eighteenth century. Bania merchants collaborated with the European private merchants in the expanding deal of cotton in Gujarat. Naupatti bankers were active in Mirzapore's cotton traffic. The society of bankers consolidated their links with the Company emerging since key collaborators of the new regime. In western India, their attendance was especially significant since they handled the vast flow of credit transfers that proved basic for the subsistence of the Company establishment in Bombay.

The Flowering of the Colonial Economy 1800-1857

The Indian trading economy in the first colonial century was distinguished principally through a huge fall in the share of indigenous traders in foreign deal, a complete cross in excess of raw material exports in lay of finished goods and a shift to new markets in the Indian Ocean, like China and Southeast Asia. Jointly, these changes helped integrate the Indian economy to the superior world organization with its nerve center in Western Europe – equally, these changes destroyed the buildings of traditional business and deal dispossessing sure clusters while enabling others to discover new opportunities in the changing scenario. The Company-British private trader combine recognized a clear power in excess of the rising sector of India's export deal, which even through the

closing decades of the previous century had shifted to markets in the eastern Indian Ocean. The transform in direction was fed through a transform in commodity composition – textiles, the traditional export staple giving method to raw cotton, opium and indigo, all of which facilitated purchases of Chinese tea and speeded up the integration of the Indian economy into the global organization.

Private European Merchants

The assembling of the colonial economy was a close to logical sequel to the political expansion of the English East India Company and the spectacular expansion of English private deal that in the middle of other things intensified the problem of remittance. This in turn inflected the course of overseas deal creation inevitable an artificial link up of deal transfers flanked by India, Great Britain and China and thereby setting in motion a new trading pattern and building. The principal carriers of the new and burgeoning deal were private European merchants, who enjoyed a special license from the Company to carry on the country deal, which the Company could not handle. Since mediators for investment and the remittance of private savings of civilian and military officials of the English Company, they played a key role before extending their ventures to fund the import and export of the country deal. They organized themselves into agency homes – sometime approximately the 1780s – and through the end of the century, became the mainly significant trading cluster in conditions of both numbers and the volume of traffic they dominated. Their number increased from 15 in 1790 to 27 in 1828, 61 in 1835 and finally to 93 in 1846. Flanked by 1783 and 1813, when the Charter Act partially ended the East India Company's India monopoly, the Agency Homes were extremely closely linked with the Company officials who were also their constituents. Their shipment of country goods to Europe were confined to the privilege deal, i.e., legroom hired out in the holds of the Company's East Indiamen.

Mainly of their energies were directed to the China deal where they shipped opium and cotton, key staples in financing the tea investment of the Company and also the principal channels of remittance. The Company encouraged private traders – both Indians and Europeans – to engage in the deal and hand in excess of proceeds of their sales to its representatives in Canton. The English East India Company granted licenses to select private traders to carry on business, which the Company could not handle, creating in the procedure a type of sub monopoly. The latter repaid the merchants in bills of swap drawn on their treasuries in India or on the Court of Directors in London. A secure bond was therefore shaped flanked by the Company and the Agency homes. Historians have seen the agency homes since the largest instrument by which western capitalism and business organizations were introduced into the subcontinent in response to the necessities of the world

market. Therefore political subjugation and the imperatives of remitting profits to England created a situation where the produce of Indian villages serviced European deal – a growth that was hardly natural or born out of the spontaneous pressures of market and competition.

Pattern of Early Colonial Deal

The configurations of early colonial deal were determined mainly through changes in the growth of deal dealings flanked by India, China and England. Here tea played a significant role. The popularity of tea in England generated a vast demand for this exotic product of China. Britain had hardly anything to offer in swap for tea and with the mounting pressure against bullion exports. The financing of tea imports required an imaginative rerouting of Indian produce that enjoyed a demand in the Chinese market. Cotton and opium provided the key to Britain's troubles of deal balance. At the similar time, the triangular deal arrangements seemed to solve the troubles of remittance. Integrating the movement of finances flanked by Britain, China and India by bills of swap drawn on London or on the Company treasuries in India, the Company and the private traders were assured of regular channels of capital and remittance facilities. Therefore private merchants shipped cotton and Opium to China, deposited the proceeds of their traffic into the Company's treasury at Canton and received bills of swap drawn either on London or India. The Company on its section had access to treasure that it could deploy to purchase consignments of tea. It was this intricate interlocking of financial and commercial interests that formed India's trading economy and discovered Indian merchants and producers to an altogether new set of conditions in excess of which they had extremely small manage. The items that entered this new deal were chiefly raw cotton and opium followed through indigo and sugar.

A quantitative analysis of India's foreign deal reflects an extremely high rate of development. Exports expanded from Rs. 68 million in 1814-15 to Rs.183 million in 1853-54. The expansion in imports was even more impressive from Rs.11.9 million to Rs.124 million in the similar era. Bombay through virtue of its locational proximity to the cotton bowl of India enjoyed an edge in the raw cotton traffic. Through 1805, the aggregate amount of cotton exported from Bombay, amounted to 80000 bales of cotton. The principal agency homes handling this traffic were Forbes & Co., Fawcett & Co., Alexander Adamson & Co. and Tate & Co. Their investments principally place in shipping cotton consignments to China and Britain and reinvesting their dividends either in tea or in bills of swap. The deal in raw cotton did not turn out to be of extensive standing and was soon superceded through the opium traffic that dominated the China deal for more than half a century. The two outlets for Indian opium were Calcutta and Bombay, with their proximity to opium producing regions in Bihar and Malwa respectively. Barring little amounts shipped to Malaysia and Indonesia,

these exports were destined for China. The agency homes dominated the deal in Bengal where it was supervised since a state monopoly. The government gave out loans to the cultivators, brought the product to Calcutta and there auctioned it each month usually well above the cost price to private merchants who shipped it to China. In Bombay, the situation was dissimilar for the Company here it made no effort to monopolise its manufacture or deal. The fragile foundation of the Company's power in western India, the comparative strength and independence of regional traders and the web of interests that linked the merchant/banker with the princely states of western and central India and the Portuguese private traders stationed in coastal enclaves like Daman and Diu to oversee a clandestine traffic in the produce combined to job in favour of the regional merchants, exporters and suppliers.

Post 1813 Colonial Deal

The expansion of India's foreign deal in the decades after the Charter Act of 1813 coincided with the second stage in the growth of the agency homes. A big number of new homes came into subsistence. These were shaped mainly through adventurers from Britain. Faced with competition, these homes tended to explore other meadows for investment – and came up eventually with indigo. A temporary demand for the dye combined with the problem of Bengal's balance of payments made indigo an attractive proposition. What followed was therefore an overextension of deal and indigo manufacture, which in the extensive run created more troubles for the homes. The mainly serious problem was one of wildly fluctuating markets – an inevitable fall out of the remittance factor. This hiked up prices in Calcutta self-governing of its prices in London and the result was a glut on the London market. This combined with the contraction of fluid capital in Bengal aggravated the situation. The transfer of the Company's debt and a slump in prices in 1825 proved to be the final straw. Bullion imports fell off while a number of agency homes sold their assets and left. Flanked by 1830 and 1833, the whole edifice crumbled wiping out a generation of agency homes. A new crop came up after the 30s to inaugurate an extremely dissimilar stage of Indo- European business.

Therefore distant, we have focused on the changes in the commodity composition of India's exports. An extremely biggest transformation occurred in the field of her imports since well. The era of the Charter Acts corresponded with the mainly productive stage of the Industrial revolution in Britain. The phenomenal expansion of the British cotton industry combined with the high price elasticity of demand for British textiles in India and the new rate of traditions levied in Calcutta in 1815 to produce a flood of imports of cotton piece goods, twist and yarn from Britain into India. What was the impact of these growths on Indian merchants and their commercial networks? The disappearance of handlooms from India's exports and the subordinate location that she subscribed to

in the new organization of deal and balance of payments were obvious and crippling liabilities that early nationalists and economic observers commented upon. To what extent did the new economy dispossess indigenous enterprise; promote de-industrialization and block avenues of capitalist development and accumulation for Indian merchants? We shall effort to address these questions through looking at the method in which the new economy functioned and the site of Indian merchants in the dynamics of the new organization and its workings. One thing requires to be constantly stressed and that is the differential advantage enjoyed through British traders in the new organization since a direct consequence of British political manages.

Also the extremely nature of the deal given that it was mainly induced through extra market thoughts of balancing payments and remittance servicing subjected it to violent fluctuations of both the British economy since well since the policy operations of the Company's government in India. This is, though, not to suggest that Indian merchants failed to play the game to their advantage or those local differences did not exist. In information, the timing of British colonial manages proved to be decisive in determining the trajectory of Indian enterprise. In Western India, for instance, where colonial manage was late in coming and where it was hamstrung through regional factors and had, so, to accommodate similarity buildings of regional power, the nature and direction of Indian trading enterprise was extraordinarily dissimilar.

Indian Merchants

The merchant world of India went by an intricate procedure of redeployment in the first half of the colonial century. Those of whom who survived the crisis of the eighteenth century fitted into the new colonial organization mainly in the capability of dependent partners of British firms in the expanding country deal of India. In Western India, the partnership proved to be basic and continued – it was in the cotton and later opium deal that the conjunction flanked by British private traders and Indian merchants produced its mainly striking results. Parsis and Bania merchants appeared since the mainly significant players of Bombay and Western India's colonial traffic. Asiya Siddiqi's job on Jamsetjee Jeejeebhoy demonstrates the secure relationship flanked by Parsi enterprise and British agency homes. His income derived from a diversity of sources: the profit of deal on his own explanation, the income from hiring freight on his ships, interest on loans to shippers, dividends on shares in marine insurance companies and commission on the sale of his own bills. His prodigious talent and wealth did not, though, insulate him from the inherently unequal trading building under which he operated. Backed through a worldwide field of operations, British merchants were able to buy and sell bills of swap at rates that Indians could hardly afford. Therefore while European

remitters eagerly sought American bills, Jamsetjee establish them undesirable and hard to sell in Bombay.

The troubles of payments and remittance arrangements affected other ventures – for example we discover Jamsetjee unable to operate his country shipping in the side of competition for private European shipping. The victory of English shipping, argues Asiya Siddiqi was not basically a technical one. “Presently since their links with the dominant international networks, of commerce and banking, centered in Britain, enabled the Liverpool trading homes to sell bills of swap at rates which Indian merchants could not afford therefore also were English ships able to offer freight distant cheaper than what Indian ships could do”. Given these circumstances, the success of Jamsetjee necessity is seen since a testimony to his agility and acumen that enabled him to build a substantial fortune.

Below the Europeans and the Parsis who dominated the first tier of Bombay’s export deal was the supply merchants and financiers whose links with commodity manufacture proved basic. Recent works through Amar Farooqui have accentuated the significance of the deal in Malwa opium since a source of capital accumulation. Malwa opium became the instrument, with which against heavy odds, indigenous clusters in western and central India carved out a niche for themselves within the overall colonial building. This, Farooqui argues, was reflected in the distant greater participation of indigenous enterprise in the growth of capitalism at Bombay compared to that of Calcutta. The Malwa deal was a vast smuggling operation, in which the largest participants were the Marwari soucars, Gujarati and Parsi merchants of Bombay and Ahmedabad and the European agency homes. The wholesale deal in opium was dominated through the soucars – mostly Gujarati and Marwari who made advances to cultivators, and composed the produce. They had big warehouses where they stocked the produce. They occupied in big level speculation and gambling in stocks. Farooqui defines the two favorite shapes of speculation and trading in futures.

These were *jullub* and cowri *sutta*. The former practice was an anticipation of price at sure dates ‘accompanied through unreal entries and transfers’. Cowri *sutta* was a same shape of gambling wherein, ‘one soucar or bania giving another, before the harvest a Cowree, since a pledge, that he will pay him a specific price, at a sure date, for a specific quantity of grain.’ They serviced both petty traders since well since the mediators of big opium dealers, based in Gujarat, Bombay and Rajasthan. The latter represented the second significant layer in the traffic. The merchants of Ahmedabad and Bombay – both Parsis and Gujaratis worked by mediators who contacted the wholesalers for procurement of the commodity and arranged for the transport of the drug through caravan to several ports on the west coast including the Portuguese centers of Daman and Diu and Goa before its final shipment to the Chinese market. Through the 1820s, the networks of Bombay, Gujarat and Rajasthan

opium merchants encompassed the biggest opium marts of Malwa, where their mediators bought opium directly from the opium wholesalers.

Ujjain was the principal center for the export deal in opium. The really significant dealers were Lakshmichand Panjray, Jadonjee Chabeelchand, Bhaidas Gokuldas, Appa Gangadhar. Connections with the Marathas- Holkar and Sindhia – enabled them to set up a syndicate of sorts. In the middle of the Ahmedabad traders, we hear of Khushal Nihal Chand, Karamchand Dhongarshee, Dayaram Dulobha not to speak of indigenous Parsi firms of Bombay who affected their purchases by the medium of Malwa traders. Clearly, then the workings of the opium deal in western and Central India enabled indigenous commercial clusters to develop a viable commercial foundation and a significant source of capital accumulation that strengthened opportunities for future enterprise.

Bengali Banyans

The similar could not be said for merchant enterprise in Bengal. Not that a regrouping of commercial interests under the colonial dispensation, did not happen. The emergence of the Bengali banyans since dependent partners of the European private traders and later agency homes was an significant growth and since P.J.Marshall pointed out, ‘Europeans traded on the capital of their banyans or Indian mediators; or to be more exact the banyans traded on their masters’ names and power’. Men like Ramdulal Dey, Nabakishan, Madan Dutta, Duttaram Ghosh invested money in deal and amassed fortunes, a sizeable portion of which was invested in land. The world of business in Bengal was primarily determined through the imperatives and workings of colonial deal, which meant that any fluctuations in the deal were bound to adversely affect their operations. Unlike since in western India, where, an significant segment of commercial action remained outside the domain of official/European manage, business enterprise in Bengal was inextricably tied to European colonial enterprise with the result that the Indian constituents necessarily operated from a location of disadvantage.

The ubiquity of the Bengal Banyans has to be situated in the context of the consignment deal that urbanized after the opening of the India deal. In the absence of a proper consignment organization, private traders urgently required the services of the banyan who would ‘in return for customary commissions and perquisites, etc. to take charge of safety and security of goods and with all due care and diligence to stay all such goods, wares and merchandise of the firm. Goods were from time to time deposited with or entrusted to them to redeliver when they shall be required or disposed of in the like order or condition since deposited or entrusted, reasonable wear and tear expected’. It was by the Banyan, that all purchases and sales were affected. He had to assume responsibility for excellence and timely transactions. His knowledge of the market was expected to

mediate deal effectively. In information, banyans like Ramdulal Dey satisfied all these circumstances and yet failed to create that critical cross in excess of to big-level deal. The expansion of private deal and the advent of the American clippers constituted for the banyans in the first decade of the nineteenth century the gateway to profit and wealth – a point that the career of Ramdulal Dey exemplifies.

The Banyans, on behalf of the indigenous component of the trading economy of Bengal were situated firmly in the colonial trading building that had firmly been put in lay through the first half of the nineteenth century. Through the 1820s indigo appeared since the mainly significant export thing for remittance with the result that there was an in excess of investment in the commodity leading eventually to the first biggest commercial crisis in Bengal in 1829-33. Exports of indigo for example expanded from 40,000 maunds in 1800 to 120,000 maunds in 1815 and to 118,111 in 1826-30. The banyans had a considerable portion of their capital tied up in the agency homes with the result that when the crash came following in excess of speculation, shortage of bullion and government indifference, the whole edifice of Indo-European business crashed. It did not, though, result in the eclipse of Banyan action. They surfaced again, this time since key partners of the new agency homes that depended on them for working capital. Through the 1840s the banyans had become agency home partners in name and information. The Agency homes in the 1840s were of two categories: export based and import based. The exporting homes were principally involved in the manufacture and export of country products such since indigo, sugar and silk. Since the funnel for capital for indigo planters and other European producers, they were the debtor homes. They depended for their working capital on Banians, government advances and finances supplied through the importing homes. The importing homes were shaped through British manufacturers to serve since mediators for the sale and sharing of yarn and textiles sent on consignment from Britain. They accumulated capital from sale of their goods and remitted the proceeds to England by bills hypothecated to indigo and other exports. Indians were intimately involved in both sectors – Marwari bankers based in Burrabazar provided capital for importing homes, advanced money to dealers in cloth and became the key middlemen for sharing of cloth upcountry. They also speculated in opium, several of them lost out after the opium war. Banyans associated with export homes enjoyed a brief era of glory, a rare, approximately meteoric even if short-existed success. The mainly notable in the middle of Bengali businessmen in this decade were Dwarkanath Tagore, Motilal Seal and Rustamji Cowasji, who figured since dominant partners in British enterprises such since the Union Bank, and in a number of insurance and coal companies. The coming of age of Bengali business did not solve the vital troubles of capital sourcing – clearly the mainly significant constraint faced through business clusters in Bengal. Approximately all the assets of the bank for example were committed to financing

the manufacture of a single export thing, namely indigo with the result that when indigo prices slumped owing to circumstances of depression in England, there was a universal fall out of European managing agencies and their Indian constituents. Therefore while on paper, loans to indigo concerns were dropping, in information the bank sustained to augment its support to indigo farming. And in annual statements directors disguised their loans under euphemistic headings. This was a dangerous trend given the information that indigo prices were dropping steadily after 1840. The more they declined, the more capital had to be borrowed to stay them in operation, the more capital borrowed, the more indigo had to be contracted for – therefore flooding the market and keeping marginal concerns in operation. The Union Bank colluded in this charade until 1847 it became no longer possible to stem the rot. The bank went into liquidity even since the agency homes collapsed.

The collapse of the Union bank has been seen since a watershed, marking the end of Bengali business enterprise in big-level business. Thereafter capital tended to remain tied to land, with Bengalis preferring to invest in *zamindaris*. Historians attempting to explain this tendency in conditions of the appeal land held for Bengalis since both since source of safe investment and since a method of life, the stranglehold Europeans had on big level deal and industry especially in the high noon of imperialism and speculative mentality born out of the get rich approach of European principals who contributed thereby to the civilization of cliques and cabals. After 1848, commerce and industry were dominated through British capital and their Marwari associates who enjoyed familial customs of support and credit and were willing to create extensive-term investment commitments.

Deindustrialization: The Debate

No essay on the trading economy of India in the era of transition and early colonialism can be complete without referring to the debates on de-industrialization. This debate in a sense encapsulates the superior question of the impact of colonialism on India's trading economy, whose workings we have already outlined. That the subcontinent's trading profile underwent biggest changes, in conditions of commodity composition, direction and business institution can be taken since given. That India lost her primacy since a supplier of textiles in the world market, that her merchant clusters suffered displacement in the principal sectors of shipping and export and that the imperatives of colonial deal and remittance formed the configurations of India's economy are facts that require no further elaboration. The implications too are clear sufficient and it was, so, not without cause that the nineteenth century came to be regarded since the period of stagnation and stasis for the Indian economy. The debate came into the public domain since early since the late nineteenth century, when

nationalist critiques of British rule stressed the destruction of India's handicrafts and the disruption of the traditional socio-economic order under the shattering power of market forces represented through western capital and mediated through the colonial state. The stagnation of industrial enterprise, the enfeeblement of agriculture and the decline of traditional crafts embodied the inherently exploitative nature of British rule in the nineteenth century. Subsequent historical scholarship on the nature of India's pre colonial economy took into explanation the colonial factor in their reassessment of India's pre colonial economy, arguing that it accommodated definite capitalist units and that the intervention of European managers thwarted the logical progression of the Indian economy. Morris D Morris attacked this location in the late 1960s when he argued that the capacities of the pre-colonial Indian economy were not since significant since they were made out to be, and that the British did 'not take in excess of a community that was ripe for an industrial revolution and then frustrate that growth'.

Further he argued that British imports of cotton did not wipe out the handicrafts industry and that imports of yarn actually strengthened the competitive location of the indigenous handloom sector despite the fall in cloth prices. The demand for cloth was elastic and the fall in price led to a movement down the demand curve. The amount of capital consumed arose and the huge expansion of British cloth skimmed off the expanding demand. The handloom weavers were therefore no fewer in number than they were at the beginning of the colonial era. Morris' bald even if bold proposition, backed through small or no empirical data was refuted through Toru Matsui Others argued that even if the competitive location of the handloom industry was strengthened through cheap yarn imports, it could not counteract the decline in the traditional spinning industry. Again from the extensive term point of view, the fall in the price of cloth per piece was greater than the fall in the price of yarn required for one piece of cloth and so the remuneration for weaving one piece of cloth was less and adversely affected the productivity for labour of traditional handicrafts. Though, Toru Matsui concedes that foreign cloth could not penetrate since effectively since desired and that there was a potential realm accessible for Indian handloom weavers. The debate was further advanced through Bipan Chandra who demonstrated the lack of correspondence flanked by yarn imports and piece good imports. The ratio of yarn imports to piece good imports was in information extremely low. The artisan survived only because Lancashire failed to reach the Indian market and because British rule was not efficient sufficient to make the perfect market. Tapan Raychaudhuri also questioned the assumptions of Morris concerning the augment in per capita income since a sound indicator of economic transform and of the beneficial characteristics of British rule. Subsequently, A.K.Bagchi in an authoritative essay on deindustrialization in Bengal and Bihar recognized on an intricate reading of Buchanan Hamilton's statement and later census data the real incidence of deindustrialization and

a comparative decline in the strength of the population attached to industry. While it is true that quantitative proof for the strength of the artisan society and its displacement in the nineteenth century is slender and that we have virtually no data on incomes, it would not be distant fetched to suggest that the changes in the building and workings of India's foreign deal affected segments of the merchant and artisan classes. Even if there was a degree of adjustment and the expansion in the deal of new commodities balanced the decline of older ones, the benefits of structural adjustment were limited and did not cover the costs of social and economic displacement. If few merchants did well, it was because of the porous nature of British rule that left few gaps for Indian merchants to carve legroom for themselves.

COLONIALISM AND TRADE: 1857-1947

Foreign Deal: Trends and Commodity Composition

In conditions of sheer volume, India's foreign deal registered a significant augment from the late nineteenth century. Access to statistical proof creates it simple to calculate the exponential rate of development in overseas deal for the whole era from 1834 to 1940. The standard annual rate of development for this era was 3.23% for exports and 3.68 for imports. In spite of differences flanked by individual decades, the era 1850 to 1914 was marked through sure homogeneity, a characteristic, which was lost after the First World War. The causes for the expansion in exports place in the expansion of multilateral deal flanked by Great Britain, the United States of America and Japan in the second half of the nineteenth century, and in which India, through virtue of its site since a colony and since a biggest supplier of primary agricultural and processed goods played a crucial role. Equally significant factors were a reduction in the length of sea circuits and the consequent fall in transport costs, railway construction in India and elsewhere, all of which combined to raise the stages of world deal to a new and unprecedented stage. India could hardly escape the consequences of global flows driven mainly if not exclusively through Britain. Changes in these flows produced vacillations and fluctuations in the movement of India's exports and imports.

The era 1834 and 1866 constituted years of highest development for both exports and imports particularly throughout the decade following 1850. The largest impulse for expansion came from the outbreak of the Crimean War and the beginnings of big-level railway construction in India. Following the Crimean War, the rupture of deal dealings with Russia, which was a principal supplier of oilseeds, flax and hemp gave a fillip to the demand for substitute products from India, while the transfer of a big section of the railway capital raised in England inflated the imports. This trend of rising exports sustained into the following decades of the 60s. This time, the American Civil War and

the opening of the Suez Canal in 1869 became the determining factors. The American Civil War created violent fluctuations in the export deal; India's exports doubled in value flanked by 1860 and 1865 only to fall in 1866. Mainly of the fluctuations was the result of the shortage of raw cotton from American sources to British textile mills forcing the latter to rely on Indian exports causing cotton prices in India to rise steeply and a spectacular development in demand for cotton? There was a perceptible slowing down in the decades flanked by 1870 and 1900. Two sets of factors were responsible for this trough. One was a series of famines and agricultural pressure in India and the other a prolonged depreciation in the gold price of silver, which caused the swap value of the Indian Rupee to decline continuously until 1893. The devaluation in the Indian Rupee achieved what D. Rothermund has described the 'miracle of stable export prices' which stimulated and continued India's foreign deal. Approximately 1900, the situation showed signs of improvement and a strong upward trend sustained right by to 1911.

The two World Wars proved to be critical for India's export deal and its industrial experience. The First World War affected India's import deal more than the exports traffic. The cessation of deal with hostile countries and the dislocation of markets in Britain, France and Belgium caused an immediate decline in both imports and exports. The revival of exports from 1916 took lay in the context of rising government war time demand for jute bags, hides and skins for the production of army boots and greatly benefited Indian exporters. Imports on the other hand lagged in their rate of recovery although after 1919, there was a veritable upsurge in imports since well. The boom in deal came to an end in 1920 and it was not until 1924 that the import deal began to revive once again. The world depression affected India's deal and through 1932, there was a serious decline in both exports and imports. The adverse conditions of deal and the sheer absolute mass of the decrease in foreign deal produced serious deflationary effects on the economy. The common recovery, which began in 1935, was checked through the two-year recession starting in the US in 1937. With the outbreak of the Second World War, there was a perceptible augment in the value of both exports and imports. The two World Wars and the depression of 1929 were in the middle of the mainly significant single external measures that convinced the building of India's foreign deal and business.

If fluctuations characterized the course of India's overseas deal in the second half of the nineteenth century, the changes in its commodity composition were no less marked. Since distant since exports were concerned, biggest shifts took lay in the composition of deal. India became an exporter of agricultural produce and an importer of manufactured products. The complete elimination of Indian handloom textiles from international markets, a growth that began in the first decades of the century, was in the middle of the mainly visible transform in the era under review. India was left to mainly export primary commodities, which she exchanged for the advanced

industrial products of the west and in the event became a classic case of a colonized economy. Not that this eliminated all possibilities for economic gain and action for indigenous merchants. In information, the sharing of British goods was affected by indigenous mechanisms of marketing and retail controlled through a number of enterprising business societies.

The principal exports in the second half of the nineteenth century were food granules, jute, oilseeds, tea, hides, skins and cotton. Of these both cotton and jute which became the foundation for industrialization were connected with war time contingencies that catapulted Indian exports into the world market. For example, the story of cotton exports was connected with the disruption of American cotton supplies throughout the Civil War, and when Indian cotton appeared since an invaluable substitute. In conditions of value share in India's total exports in the 60s, raw cotton accounted for 52.2%. The boom was a significant starting point of an extensive-term transform in the direction of the cotton deal in India. Even after American cotton exports resumed, India was able to stay up its own exports mainly due to the development of the textile industry in Europe. Added to this was the emergence of Japan who through 1913-14 had appeared since a biggest customer for Indian cotton by 45 per cent of the total exports. Closely following on the tracks of cotton was India's export deal in food granules. Throughout the fifty years preceding 1914, India possessed an extremely big export deal in food-granules, which accounted for 10 to 20 per cent of total export value. Indian wheat commanded a significant market in Britain. After 1922, the wheat deal entered a stage of decline partly due to the increased demand for wheat in India itself and partly because of competition from other wheat rising countries.

Accompanying the increased stage of deal in food-granules was a rising demand for container bags. This generated a demand for jute since an export thing, which in turn and in excess of time led to the establishment of India's second biggest manufacturing industry in this era. The principal catalyst for the initial expansion of jute was the Crimean War that disrupted supplies of Russian hemp and flax. In the 1880s, India took a lead in the export of finished bags eliciting the resentment of Dundee mill-owners who in the early years of the twentieth century complained of Indian competition in the American and Australian markets. Flanked by 1900 and 1914, the industry in Bengal was unusually wealthy and both exports and profits in these years were exceptionally high. Of the three remaining exports, seeds, hides and skins, and tea, the first was after that only to cotton and jute in total exports and before 1914, India was the world's main supplier of rapeseeds and groundnuts. Unlike tea, the deal in hides and skins and oil seeds was not new. It was tea that was a classic instance of import substitution from a non-colonial to a colonial period. The industry owed its subsistence entirely too British capital and enterprise. The real expansion for tea since a significant thing of export came in the 1880s.

The building of India's imports remained stable by out the era. Miscellaneous items made up India's imports. A diversity of Asian products such as coffee, Chinese tea and sugar and spices from Southeast Asia constituted one category. The second cluster consisted of European luxury goods and finally there was an entirely new class of articles of mass consumption, namely textiles, metal goods, paper and glassware. Cotton textiles accounted for the bulk of the imports, which fell off only towards the end of the First World War. With the maturing of Indian industry and the emergence of Japan as one of the main efficient producers of cheap cloth, the monopoly of Britain in the Indian market was definitely broken. India's exports did not exceed that of imports and yet India remained in trading deficit with Great Britain. This was a consequence of the nature of the imperial relationship that tied India to Britain and that imposed on the colony the burden of Home Charges that incorporated the administrative and protection expenses incurred through Britain. Since Rupee prices fell continually, the payment of the tribute to Britain generated a rising quantum of unrequited exports of primary produce from India and the effects of railways and integration into the world market remained incomplete and limited.

Internal Trading Networks

If overseas trade represented the visible side of the colonial economy and its functioning and enabled an integration of the subcontinent with the superior global economy, it was the internal trading network that provided the critical scaffolding for India's export trade and for the subsequent growth of Indian industrial enterprise. Until the emergence of the contemporary industrial sector in the aftermath of the First World War, indigenous merchant societies remained mainly confined to what Rajat Ray has described as the world of the bazaar, which was separate from the world of contemporary business and industry but which remained closely inter-related. The bazaar was aligned to inland trade, especially to the marketing of agricultural produce, the financing of inland trade in commodities, the facilitation of movements of artisan manufacture and peasant crops. Operating the bazaar were bankers or shroffs and commission mediators or *arhats*. The former used bills of exchange or hundis to fund and market the trade in agricultural produce as well as the marketing of imported goods. The mass of their operations was impressive and enabled them to accumulate capital and forge extensive relationship connections in the inland market, and which proved critical when they made the transition to industry.

Even historically, India's inland trade had strong links with maritime trade. The opening of the country by the railway network made the links even stronger. The growth of the railways under colonial rule both expanded and diverted the movement of goods in the interior. For example, the

Great Indian Peninsular Railway diverted cotton traffic that had in the eighteenth century moved beside the Ganges River to Bengal was diverted from Nagpur in central India to Bombay. In the procedure old circuits dehydrated up. Boat and steamer traffic down the Ganges and Jamuna dwindled since the East Indian Railway ran up the Gangetic valley to Agra. The inland deal of India came to flow by the railway network that was essentially oriented to the export deal controlled through imperial interests, and which enabled the two leading foreign firms – Ralli Brothers and Volkart Brothers to set up buying institutions distant into the interior of the country. Even however admittedly, the railway network was designed to facilitate the operations of European export interests, the establishment of a distant reaching network of sharing channels stood Indian merchants and middlemen in good stead since they worked in the capability of brokers and upcountry dealers. Though, this is not to deny the apparent hegemony of the foreign firms who had the pick of the business or that indigenous firms tended to operate in regions in which foreign firms establish either more risky or not sufficiently lucrative in conditions of profit margins.

In addition to the deal in agricultural products that followed the railway network and serviced the export economy, there was the caravan deal to central Asia. We have a compelling account of this deal operated mainly through peddlers from Neeladri Bhattacharya's job. This deal brought into India from Bukhara and Samarkand, Persian carpets, currants, dyes, saffron, goat and camel hair, sheep skins and dyes from Kabul and furs, horses, manna, wool and bullion from Bukhara. The return deal was in English cotton piece goods, silks, chintzes, spices, drugs, medicines and Kashmir shawls. There were shifts in this traffic since well in the era under review; for example, the fine horses of Bukhara no longer commanded the similar prices in the later nineteenth century. Imports of silks also shrank, while those of dehydrated fruit, fur and skins went up. In the middle of exports, cotton manufactures and tea gained ground jointly accounting for 60 per cent of the total value of exports to Afghanistan and Iran in the 1940s. Through the second decade of the twentieth century, in excess of Rs.3 to Rs. 4 lakhs worth of charas was annually coming into Punjab by Ladakh, constituting 55 to 65 per cent of the value of imports; raw silk, borax, wool, horses and ponies accounted for the rest. In the middle of exports again, tea and cotton goods became significant, the former accounting for 25 to 30 per cent and the latter 55 to 65 per cent of the total value.

No explanation of India's deal in the era under review will be complete without reference to the movement and migration of Indian merchant capital into the world of the Indian Ocean. Since we know, flanked by 1750 and 1850, the merchant world of India had gone by an intricate procedure of regrouping and had undergone biggest reverses especially in the sector of foreign deal. Throughout the first colonial century, there was undoubtedly a huge fall in the share of India's foreign deal controlled through its indigenous traders. Though, the latter had whenever possible responded to

opportunities, functioning since collaborators with British private merchants. This collaboration proved particularly significant in the case of the opium deal, which became one of the mainly significant sources of capital accumulation for several Indian mercantile clusters – the Malwa soucars being a case in point and therefore vividly called through both Claude Markowitz and Amar Farooqi. Rajat Ray has in a significant essay argued that even in the period of ‘high imperialism’, i.e. the 1858-1914 era, Indian merchants sustained to play a role in international deal, which was not purely residual. While the deal flanked by India and Europe was monopolized through British business, the deal of India with the rest of Asia and Africa remained with the Indians. Deal with Southeast Asia increased substantially in the second half of the nineteenth century – therefore did the deal in the western Indian Ocean. It is to this sector of Asian trading enterprise that we shall now turn our attention.

Merchants: Europeans and Indians and the Racial Division of Economic Legroom

The configurations of the Indian trading economy in the high noon of Imperialism were determined through the communication and transport revolution that accompanied colonial rule in the nineteenth century. Dramatic changes in shipping and transportation embodied through the railways and steam shipping fundamentally altered the institution and fund of Asian deal and gave Western capital mastery approximately the 1870s. The great liners swept the high seas displacing the sail ships and enforced a monopoly through the formation of rings in the middle of themselves, from in relation to the 1875. This was accompanied through telegraphic communications that provided the vital circumstances for forwards trading on a big level. The big European firms extended their grip in excess of the commerce of the east, selling cargo many months ahead, did their import and export business on the principle of simultaneous operations. What this meant was that since soon since a firm purchased produce in India, for a price fixed in rupees, it simultaneously sold its bill to a swap bank, fixed the swap in pounds, and occupied the freight with the shipping row. Three operations were necessary to fix the sterling price of produce ahead of delivery – the price of rupees, the rate of swap and the rate of freight – all fixed simultaneously for a little periphery. Under these altered conditions, the Asian merchant consigning goods on a ship for whatever these might fetch at a port of call were in excess of. Only big firms with a foundation in the metropolitan country that is Britain could operate in such intricate circumstances.

Working in tandem with the shipping conferences were European Managing Agencies and Swap banks that in their new incarnation totally distanced themselves from Indian collaboration. Early swap banking had been situated in India with strong Indian partnership; now they shifted their

headquarters to London beyond the reach of Indians. Indian directors were shut out. The banks monopolized the financing of India's export deal that was concentrated in the hands of the shipping Conferences, the managing agencies and the swap banks. The managing agencies closely financed and supported through the banks were occupied in long imports of manufactured goods and in exporting raw cotton, jute, gunnies, hessian, cotton yarns, granules and seeds, tea and a diversity of country produce from India. The rising radicalization of the economic legroom whereby Europeans dominated the uppermost tier of the trading building meant that Indians were necessarily pushed into a corner. How did they respond and what were the options accessible before them? Prevented from competing with the Europeans, they turned inwards and concentrated on inland deal that fed and serviced crucially the export import rows. Trading societies like the Marwaris and Gujaratis appeared since principal distributors of British imports and since the biggest players in the marketing of agricultural goods in the subcontinent. Taking advantage of the spreading railway and telegraph network, Marwari and Gujarati trading societies stepped in to fund and market the deal in agricultural products and import items. This provided the context both for the emergence of what Rajat Ray has described the Bazaar economy that was segregated from the consolidated enclaves of European banks and corporations.

The mainly significant class of merchants in the inland deal of India was the Marwari shroffs or bankers and commission mediators who controlled the flows of money and produce in the *mandis* or market cities of the interior. The *arhatiyas* were separate from ordinary brokers in that he guaranteed the bills or *hundis* by which deal transactions were made flanked by buyer and seller. The *arhatiya*, functioning since a link flanked by the buyer and seller, gave a contract of guarantee, undertaking that delivery should be taken on due date or given at the price at which the order was carried failing which he would be liable to pay the variation. The *arhatiyas* controlled the expanding grain deal and financed the smaller merchants or *beparis* who brought the grain to the market cities the *arhatiyas* maintained grain stores and speculated on the variation of grain prices flanked by far market cities. The superior commission agency homes were bankers, acting for merchants from other regions and allowed them to attract credit for their business transactions. The organization of interlocking commission agencies shaped a network by which extensive aloofness deal and credit urbanized in the interior of the country into a thick web in course of the nineteenth century. The prominence of the Marwari merchants in the mid nineteenth and twentieth century dated from the first decades of the nineteenth century, when they urbanized for the first time the futures deal in opium. The fluctuations in opium prices jointly with the unstable swap flanked by India and China made the opium market particularly favourable for high speculation. Regular Marwari opium futures trading in Bombay started in the 1840s while in Calcutta it urbanized from the 1860s. Vast fortunes

were made in opium speculations with the result that the society was well placed to enter the money market and subsequently develop speculation in the stock market.

The banking business and the merchants associated with it underwent a biggest transformation in course of the nineteenth century. It may be recalled that until the establishment of the official British organization of treasuries and a uniform silver coinage, the hundis of Indian bankers had functioned since critical instruments in the remittance of finances throughout times of peace and war. After 1860, the situation changed and the *hundi* became a pure deal bill, a means through which bankers financed and facilitated the rapidly rising flow of inland deal beside the railways. The emergence of the bazaar in the context of expanding internal deal since a separate but inter-related sector of the colonial economy demonstrated the vitality of Indian business that was able to carve for itself a significant niche in the transformed trading economy of colonial India. The bazaar was not, in any sense a marginal or interiorized strata in the business world of India – like the European banking sector, it dealt with financial instruments and mobile credit and financed the *arhatiyas* or commission mediators and functioned since a similarity interlocking organization of deal, swap and credit. The link flanked by the bazaar and the European swap banks, was though tenuous. There was no unified money market in India and dissimilar rates prevailed in each of its three segments. The money employed in native banking and commerce, the money employed in European commerce, and banking and the metallic currency issued through the Government of India and partly kept in reserve in treasuries. The money in exploit in the middle of the people was in metal. The usurious rates at which the general people obtained loans had no relation whatever to the rates of mobile money at the command of banks and the bazaar.

The two mainly significant Marwari banking firms in the nineteenth century were Tarachand Ghanshyamdas and Bansilal Abirchand, both of whom began with opium and cotton speculation. In the 1920s, the banking home of Bansilal Abirchand with their headquarters at Nagpur commanded a vast network of more than thirty branches spread in excess of the Bombay Presidency, central India, Bengal and Madras Presidencies and the princely states of Rajputana, Hyderabad and Mysore. The Poddars of Ramgarh, who owned the firm of Tarachand Ghanshyamdas, had at their command an even wider network in India to help sharing of Burma Oil. The accumulation of capital and ability and commercial intelligence enabled indigenous merchants to find new avenues of commercial gain and find new possibilities for export business that was at one stage, outside the strict confines of the colonial economy and at another was section of the integrative operations of the capitalist world. Contrary to the usually held assumption that Indian capital was unable to penetrate the capitalist world economy dominated through the Western dominations, recent scholarship has recognized the importance of Indian capital movements and migrations in the nineteenth and twentieth centuries.

While admittedly the international deal of Asia in the later nineteenth century was monopolized through European and American banks and shipping corporations, Asian shipping and capital was able to discover a new sphere of action in inter-Asian deal. Since the volume of swaps beside the coast of Asia and Africa increased steadily with the concentration of cash crops in regions of natural advantage and with rising imports of food into these regions, Indian capital establish profitable outlets in financing the deal in food granules and textiles to Africa and Asia.

Furthermore, like the Chinese, the Indians who had an extensive custom of experience and expertise in handling money and brokerage, were able to take full advantage of the internationalization of the economy. Therefore it was no coincidence that trading societies like Chetties of South India should have moved into Burma from where the export of rice created a new deal in money. Likewise the business in money arising from the export oriented clove plantations in and approximately Zanzibar was monopolized through enterprising Gujarati merchant societies.

Three Merchant Societies: Chettiars, Marwaris, Shikarpuris

The Nattukottai Chettiars were in the middle of the mainly significant and impressive participants in the pan-Asian bazaar economy that functioned in tandem with the colonial economy controlled through European capital and enterprise. To this society goes the distinction of having opened 'Lower Burma' to commercial agriculture. Emerging since intermediaries flanked by the native cultivators who had neither access to capital nor expertise in handling credit nor the colonial economy, they became indispensable to British banks. Historically the society was recognized to have occupied in long money lending to the Sivaganga and Ramnad *zaminaris* on *hundis* and mortgages and in marketing and financing the granules composed since rent in these two estates. Since early since the 1830s they were attracted to Ceylon and the Straits settlements and subsequently after the British annexation of 1852 to Lower Burma. There they quickly built up their liquid reserves and concentrated their capital on overseas credit operations in four zones, namely, Burma, the Federated Malay States, French Cochin-China and Ceylon.

The overseas expansion of Chettiar fund and banking started with Ceylon, where their initial business involved supply of rice and piece-goods from India, pawnbroking and shop-keeping. These behaviors subsequently led to banking and deal in money which accompanied the growth of European plantations. Until the 1840s, European planters were dependent on Chettiars for their swap operations. The planters, who obtained sterling bills on London for shipments of coffee, converted the bills into silver rupees, the current coin of Ceylon, by the agency of the Chetty bankers. The Chetty bankers shipped silver rupee coins on native vessels for which they paid a shipping charge of

two rupees per bag of rupees brought from India. With the entry of the Oriental Bank in 1847, the Chetty bankers lost this branch of commerce and reoriented their ventures through stepping in since intermediaries flanked by European swap banks and native Ceylonese borrowers. The swap banks made big advances to the Chettiers for short term eras at two or three per cent above the bank rate and the Chetty bankers in turn made advances to regional Ceylonese at a periphery of three per cent. In Southeast Asia, the Chettiers operated initially since traders selling lungi cloth dyed on the Coromandel Coast to the Malays. With the annexation of Lower Burma through the British, the Chettiers moved in since moneylenders and since financiers of the rice deal. Through the beginning of the twentieth century, the Chetty network was widespread in Burma, its headquarters situated in Mogul Street in Rangoon and linked closely with four principal upcountry markets – Mandalay, Bassein, Henzada and Moulmein, which acted since the principal channels for the movement of finances to the Chetty banking establishments distributing loans for the rice crop in the interior.

The banking business of the Chettiers continued a vast expansion in the twentieth century and on the eve of the Great Depression; their business had increased five times in excess of – with 1650 firms operating a working capital of 750 million rupees. It was in the similar era that Chetty capital moved to new and profitable regions of investment. Since Singapore became significant, the Chettiers turned from peddling in Coromandel cloth to big-level financing of opium imports from India which in turn led to banking. This was undertaken in secure collaboration with the European swap banks – the Chetti opium importers shaped a significant channel by which the paper notes of the swap banks circulated in the straits. The movement of Chetty capital and enterprise was not an inaccessible phenomenon. Like the Chetties, Gujarati merchant societies spearheaded an impressive movement of capital into the western Indian Ocean. Bhatias, Khojas and Cutchi Memons came into prominence in the second half of the nineteenth century, when they recognized themselves in all the biggest ports of the Arabian Peninsula. Originally grain sellers, these societies began migrating into Bombay in the latter decades of the eighteenth century and went on to shape merchant colonies in Muscat, Aden and Zanzibar. The substantial deal that urbanized flanked by India and east Africa and centered primarily on Zanzibar was mainly a preserve of several clusters of Gujarati merchants. Deal with the Transitional East, particularly with the Persian Gulf remained also a significant region of action for several Indian traders from Kutch and Kathiawar, Sind, Gujarat proper and Bombay.

The movement of Gujarati capital and enterprise while driven through the imperatives of the colonial economy was clearly able to carve for itself a significant domain of autonomy in the deal of the Indian Ocean. Their chief function was to distribute Manchester cloth in Arabia and Africa. Later in the era, the Japanese relied on their network since well and eventually the Bombay mills used the similar agency to push their products in the Red Sea zone. The regular steamship service flanked by

Bombay and the Persian Gulf made Bombay the principal market from which the Arab countries and Iran purchased goods. The vitality of Gujarati merchant enterprise in Bombay had been consolidated by the nineteenth century, with the result that they were able to step in since critical intermediaries in the deal. With their strong location in Bombay, built up by family connections, they built up a long network for the sharing of goods in the Western Indian Ocean. The marketing network that they built up fell into three zones: the Persian Gulf, the Red Sea and the coastal stretch of Africa from Zanzibar to Mozambique. In the Persian Gulf, their largest centre was Muscat, where a settled Indian society mannered an active deal with India in rice, granules, spices and coffee. Since early since 1840, Muscat boasted of a strong Indian society. In the succeeding decades, this resolution became more entrenched. Indents for Manchester goods were sent through the Muscat Gujaratis to their Bombay mediators who placed the orders with the shipping shapes in Bombay. The Bombay mediators made payments against the bill of lading and then drew *hundis* on their Muscat correspondents at 21 days at a commission of 2 per cent. Bahrein and Kuwait were two subsidiary centres of Gujarati deal in the Persian Gulf. Shells and pearls were the principal items that entered this deal.

On the Red Sea, Aden dominated the trading network. Its imports of piece goods and yarns were sizeable and its deal stretched beyond the British resolution. Three or four big Indian firms in Aden, with branches in Bombay and Djibouti controlled the whole import of yarn and piece goods and distributed it on the other face of the Red Sea. In East Africa, the Gujarati deal zone centering approximately Zanzibar extended to Mozambique in the south and to Kampala in the north. Resident Gujaratis imported a diversity of Indian goods - rice, piece goods, wheat and flour from India and exported cotton, cloths and ivory to India. The typical Gujarati firm in Zanzibar had a branch in Bombay that undertook the business of importing piece goods from a regional piecegoods merchant on cash against documents, and of shipping the goods to the Zanzibar office on credit. Thereafter, the Zanzibar office would, instead of creation cash payment to Bombay, utilize the proceeds of sale for purchase of cloves for the Bombay market. The Zanzibar Indian firms also dealt in Manchester goods and Japanese goods. In Zanzibar, the Gujaratis importing and wholesale firms passed on the imported goods to Indian retailers who shaped a network in the country. Credit for 90-120 days was readily extended to this secondary network – a nexus therefore dominated through Gujarati capital that the foreign firms made no effort in Zanzibar to obtain direct access to the markets. The importance of Zanzibar declined in course of the twentieth century creation method for Kampala to emerge since the principal centre of the Gujarati network.

A third merchant Diaspora studied recently through Claude Markovits was constituted through the Shikarpuri merchants and Sindworkis who operated extremely dissimilar networks. Shikarpur was the centre of a financial network which urbanized in the second half of the eighteenth

century following the rise of the Durrani Empire. The decline of Durrani domination did not entirely deflect Shikarpuri enterprise for taking advantage of the capital that the merchants had accumulated, they were able to take advantage of a new surge in Indo-Central Asian deal from the 1840s to build a distant-flung network based on the financing of the caravan deal and on the secure links with the Uzbek Khanates of central Asia. This was a network that functioned quite independently of the British relationship and was able to uphold it until the Russian revolution. The case of the Sindworkies was quite dissimilar. Hyderabad in Sind was house to a society of bankers and merchants who had secure links with the Amirs of Sind and who was overthrown through the British in 1843. Undeterred, the Sindworkis exploited the rising commercial connections flanked by Sind and Bombay to embark upon a new venture, namely that of selling regional craft productions to a European clientele, first in Bombay, then in Egypt and then worldwide. These two networks, a revise in contrast had several characteristics in general in that they both used 'traditional' shapes of business institution and of accounting techniques. At the similar they, at least the Sindworkies operated in circumstances of a global economy.

Merchants' Institutions and Business Buildings

How does one explain the comparative success of merchants in colonial India? Historians have suggested that the success of merchant societies like the Chetties, the Gujaratis and the Sindhis were mainly to do with the society building, their accounting organization, partnership arrangement, agencies and communal mechanisms of bazaar rate determination. In the case of the Chetties, whose business institution and practices have been studied through David Rudner? Their society building provided a firm basis to the commercial institution of the Nagarathars. The Nattukottai Chetties described themselves Nagarathars because the society was divided into nine *nagarms* with a temple at the head of every such element. Each temple levied a tax on every married couple assigned to it. In the middle of the member therefore apportioned, the *nagaram* settled disputes out of court through arbitration. Their organization of accountancy was the double entry organization of bookkeeping in which Chetty boys were trained from year 8. Sons of rich parents were apprenticed to learn business in firms that did not belong to their parents. Chettiar firms usually were partnerships flanked by comparatives by marriage. The similar Chettiar male could be partner in many firms, which gave rise to an organization of interlocking partnerships crossways the four zones.

A feature characteristic of Chetty enterprise was the organization of agencies and interbank organization of accounting. An agent entered into the banker's service on a three-year contract and before setting out for his overseas destination received an advance in salary that amounted to Rs.300

for Burma in contrast to Rs.100 for Madras. On his return, he got a net ten per cent share in the net profits if he was measured industrious throughout his agency. Auditing of explanations was done triennially while manage of the agent was maintained through examination of weekly or monthly dispatches of the book extracts and issue of instructions through correspondence. Six months before the expiry of the agency, the new agent was sent to learn the business and familiarize himself with regional business circumstances. The agent then returned home, settled explanations and resumed his engagement either with his earlier employer or with another banker, or start business on his own. Under such a intricate and interlocking organization, Chattiars were established to act in multiple capacities, either since partners banking on their explanation or mediators of their caste men. The Chetty banks adopted in the middle of themselves the inter-bank organization of accounting. This involved crediting and debiting interest with each other at the end of the year after exchanging a memorandum of interest calculations carried through both parties before adjustment was made in the books. Chetty inter-bank rates varied every month just as to seasonal demand. Overseas Chetties fixed the current rate every month at an assembly in a special structure where each banker secretly indicated his figures to a chairman who announced the standard and arrived at the rate in accordance with the demand and supply for capital in the middle of the Chetties and the bank rate then prevailing. The society also made exploit of weekly meetings to fix the thavanai rate or the interest on deposits from outsiders.

In the middle of Gujarati businessmen since well since the Sind merchant networks, the business institution remained strongly centered round society ties. Markowitz mentions the workings of the *shah-gumastha* organization in relationship with the Shikarpuri merchants. Distinguishing it from the Chetty organization where Markovits argues the mediators were not partners in the similar sense since the Shikarpuri *gomasthas*. The organization originated before the eighteenth century but through the 1840s it was firmly in lay in Shikarpur. It allowed little clusters of bankers situated in Shikarpur to manage financial and commercial transactions in excess of a long region. The *sarraf* or the banker was the merchant capitalist or shah who advanced the finances to his mediators or *gumasthas*, who were remunerated in the shape of a share in the profits of the financial and commercial operations they undertook for him. Once in central Asia, the *gumasthas* started their own business and became *shahs* in their own right. The vital function of the organization was to ensure a regular supply of capital for extensive aloofness financial and commercial ventures. The *hundi* was the cementing mechanism in the network – within the Shikarpur route *hundis* were honoured on sight. In Hyderabad on the other hand, in the middle of the Sindworkies, there urbanized a type of dual organization that combined characteristics of the *shah-gumastha* organization with that of European commercial partnerships. These were associations of many *shahs* or capitalist partners

with many *gomasthas*. The firms had head offices and branches and demonstrated exceptional longevity.

REVIEW QUESTIONS

- What role did the Banias and *sarrafs* play in the seventeenth and early eighteenth century's trade?
- Discuss the impact of European intervention on Indian merchants and trade during the eighteenth century.
- To what extent did the eighteenth century 'crisis' influence trade and markets?
- What role did the India merchants play in India's trading economy during the late 19th century?
- What accounts for the dynamism of the 'bazaar economy' in the colonial period?

CHAPTER 5

The Rural Economy

STRUCTURE

- Learning objectives
- Agrarian policy and land rights
- Patterns of commercialisation
- Forest economies in colonial India
- Demographic change and agrarian society in colonial India
- Tribal society and colonial economy
- The question of agrarian growth and stagnation
- Review questions

LEARNING OBJECTIVES

After reading this chapter you will be able to learn about:

- Analyze the chief characteristics of British Indian government's land policy.
- Analyze the spatial patterns of commercialisation in the first half of the 20th century.
- Examine the question of population growth in the colonial period.
- Analyze the impact of colonial interventions on tribal economy.
- Discuss the main trends in agricultural production in British India over the period 1890-1950.

AGRARIAN POLICY AND LAND RIGHTS

Motives and Contexts of Land Policies

This discussion will concern itself with only one aspect of colonial agrarian policy, the big aspect related to land rights. There are two largest contexts, relating to the motives lying behind the policies. First is the motive of *manage*. Land policies are partly in relation to the ensuring that there is order in the countryside, and that revenue is readily relinquished to the state. This does not mean that land policies were merely a shape of coercion. Presently since significant, they offered a means of persuasion. The British wanted to support or make classes which would have an interest in collaborating with them, and which would be able to curb those who tried to resist or avoid the state's power. The British also designed to ensure vital stages of well-being in the population since

an entire, therefore since to avoid the costs and dislocation of famine, disease and desertion, and therefore protect future state revenues.

Second, there is the question of *deal*. In the eighteenth century British deal with India centred on exchanging India's manufactured cotton-goods for bullion. This was partly because there was small market in India for British produce, but also because silver and gold were not basically money but commodities wanted through India that Europe could supply relatively cheaply. Even cheaper for the British East India Company, though, was to create its purchases in India by revenues from Indian territories, and profits from the sale of products in which the Company recognized a monopoly, such as salt and opium. Such strategies also implied land policies. Later, from the mid-nineteenth century, this not extremely efficient or profitable organization gave method to one that sought to attract on a much wider range of products, and to involve a much better proportion of Indian consumers. This meant that land policies became even more significant. Overseas land and labour possessions were now beginning to support and enrich the population and the capitalists of Britain, since its industrialization progressed. At first, slave plantations, North American growth, and newer colonies of resolution played a superior section in this procedure than India. But India soon became a source of raw materials and of few foods and drugs, and also a market for British manufactures. The surpluses earned through India's foreign deal helped Britain to fund its own deficits in deal with few other countries. India was also a basic location for British employment, services and investment.

Contrary to what is sometimes idea, colonial land policies were not exactly calculated to achieve these effects, which were the outcome of countless individual economic decisions and not of any distant-seeing state plan? But certainly Indian land policies were expected to help or at least not to hinder British economic interests, which were also supported through the economic theories of those days. The success of the policies can be seen in the extent to which India's countryside *did* perform the roles required of it through British industrialists, merchants and consumers.

Revenue Settlements

The foundation of land policy was the revenue resolution, meaning the decision since to how much would be paid to the state for land, which would pay it, and on what conditions and circumstances.

The Permanent Resolution

The tendency in India was for strong states to reach down since close to since possible to the actual cultivators for information in relation to the agriculture and land-holding, and in order to fix responsibility for the payment of land revenue. No pre-colonial states supervised to do without regional intermediaries – lords, record-keepers, headmen, and therefore on – but several kept cautious records relating to land-holding and revenue payment. The mainly celebrated survey was that ordered through Todar Mal, fund minister of the Mughal emperor, Akbar. Throughout much of the seventeenth century, this and further surveys permitted an organization of regulated revenue resolution based on assessments of agricultural output.

In the eighteenth century, though, there was an ever-rising demand for revenue. This was attributable to a number of factors: the development of stronger local states, the cost of warfare, investment in manufacture and deal, tributes paid to others, and loss of income to intermediaries or to the powerful, again including the European trading companies, which usually avoided regional tolls and taxes. This require for money led to agreements flanked by regional rulers and either the powerful elites or efficient ‘fixers’, therefore-described revenue-farmers or *ijaradars* chosen through auction. In common these arrangements implied short-term increases in revenue in return for a reduction of central manage. In 1765 the British East India Company gained manages in excess of the revenues of Bengal and Bihar. At first the Company worked by deputies who also served the Nawab of Bengal; and, even when it took manage directly at the behest of the Governor, Warren Hastings, in 1772, it still awarded the revenue-collecting right to the highest bidders for conditions of one or more years. But the Company was gaining information by access to the revenue records, the experience of few European collectors, and also a commission of inquiry in the districts. Strong theoretical and practical arguments were advanced, notably through Council-member, Philip Francis, that short-term revenue-cultivation was unwise.

In 1789, so, a ten-year resolution was declared through the acting Governor, Sir John Shore. In 1793, under the new Governor, Lord Cornwallis, this was superseded through a resolution that was declared permanent: that is, the rate of tax was fixed for ever. The resolution was to be made through regional arrangements by the existing records and with what was idea to be hereditary landed interests, the *zamindars*. Several thoughts place behind this organization, which was ordered from Britain. It provided a means of running India by common rules, set out in an extensive list of Regulations enforceable through the courts. Such minimal direct government was favoured through the political theories of the day. The organization was also idea suited to Indian expectations and to circumstances in Bengal, where the self-seeking servants of an imperfectly organised commercial company were now in possession of an empire. Creation the resolution with *zamindars* would close,

or if necessary make, an indigenous rural aristocracy. Permanence would lay a clear and fixed limit to the government's share of manufacture, and therefore encourage investment, higher productivity and deal, which then would augment the government's income indirectly.

Too little extent these goals were achieved, however the Company soon turned against the Bengal organization. The cultivated region increased, and more crops were grown for regional and international markets, adding to an already commercialized agriculture, and to recognized means for the reclamation of land. *Zamindars*, despite pockets of resistance, gave up their broader military and political roles, and became adjuncts to a new political order and subjects of the Company's government. Slowly, from the early years when land could barely be sold at any price, a precious land market grew, beside with population, giving meaning to the rights created in and after 1793. New landlords, at first often resisted through regional societies, were able to call on state force to ensure their possession. A tendency in favour of distinct rather than shared landholding led to partitions under official scrutiny, therefore that the number of *zamindars* increased markedly, especially in few districts. Land became a reliable security for borrowing and mortgages, but also, so, a means whereby traders and moneylenders could extract agrarian produce at lower cost and somewhat reduced risk to themselves.

The permanent resolution attached possession to revenue-payment. In the past, non-payers could be punished in their person – through imprisonment or torture, for instance. Now their property was at risk. Few great *zamindars* lost out, since the revenue demand was often set at rates that were initially extremely high. But new regulations were introduced to help the remainder, in excess of the after that some decades, through giving them close to-absolute dominations in excess of their tenants and in excess of tenants' property, including standing crops. Few agrarian classes had their pre-existing rights recognised. This qualified those given to *zamindars*. In few regions intermediary landholders gained mainly from the permanent resolution, by directly managing manufacture. On the entire, though, the legal location of cultivators was weakened. For mainly of the nineteenth century, until changes in the law and in official attitudes, they did not share in the benefits since incomes from agriculture improved. Even in the eighteenth century, dispossessed and opportunist people had shaped criminal gangs in the countryside. In the nineteenth century, armed or concerted resistance broke out, expressing several mixtures of religious, social and economic grievances. Disease, scarcity and famine worsened in rural societies, partly because of the gradual spread of the effect of these changes in property law.

The Temporary Settlements

Extremely soon after the introduction of the permanent resolution in north east India, it was challenged through Company officials, especially Thomas Munro, who held that it was inappropriate to the regions they knew. In Munro's case this meant sections of the Madras presidency, where he claimed that either there were no identifiable landlords, or the regional chiefs threatened British rule and should be removed not revived. More usually he argued that a *zamindari* resolution was contrary to Indian understandings of landholding and revenue-obligations. A small later, approximately 1812, these conservative arguments were allied with the reformist and anti-aristocratic tendencies of Utilitarian thinkers and political economists, such as James Mill, who now controlled the London management of the Company. This alliance ensured that no further settlements would be permanent. It was argued that landlords did not usually contribute to prosperity, and were not doing therefore in Bengal; and that manufacture would be best increased through giving property rights to those responsible for tilling the soil. It was claimed that Indians did not understand or were abusing the elaborate legal organization that had been set up in Bengal, and that they would be better served through rulers who combined executive and judicial functions.

In future, so, mainly settlements were '*raiyatwari*', that is made with the *raiyats* rather than with landlords. Such settlements were introduced in southern and western India. Same but customized adaptations were later devised for 'village societies' based approximately co sharers, in sections of north India, especially the Punjab. Broadly speaking, these temporary settlements relied on secure surveys of the countryside, and on frequently revised records. Revenue-rates for each cultivated plot were set for a limited era, commonly thirty years. Actual payments depended on annual statements on the exploit of that plot. Temporary settlements so implied secure and personal rather than far and legalistic government. They nevertheless standardized the categories of landholding, and replaced systems based on shares or communal liabilities with ones based on individual title.

The surveys were always elaborate, and became more time-consuming and 'scientific' throughout the nineteenth century, separating measurement and the drawing of plans from the recording of landholders and from economic, social and historical assessments of the circumstances in every village and in areas of same character. Revenue rates were increasingly set at stages related to the supposed capability of the soil, in order to discourage idleness. They were calculated in accordance with the definition of rent through the classical economist, David Ricardo – namely, that it was merely the unearned extra produce from bigger land, compared with that from the least favourable land, and so both measurable and safe to tax. When this calculation led to overly high revenue demands, these were customized through more subjective assessments of what regions could

afford to pay. The Punjab in scrupulous, in the later nineteenth century, advocated a peasant proprietary model of agrarian policy, and turned the survey and resolution statement into an expensive intellectual exercise, one of the founts of today's anthropology and growth studies. Through contrast, the United Provinces saw a resurgence of belief in aristocratic land-manage, especially in Awadh following the rebellion of 1857- 8. There, a resolution was made with larger landlords in replacement of a village-stage resolution introduced immediately after the British annexation. It was debated whether this and other settlements should be made permanent. In the event they remained temporary, even where larger revenue-collectors were again recognised, for instance in central India since well since in Awadh.

Subsequent Adjustments

The systems introduced flanked by 1770 and the 1850s did not remain unchanged. New ideas and perceived troubles prompted adjustments, which sustained up to and after the end of British rule.

Preserving Property

Several events were taken to preserve property. On superior estates the British encouraged primogeniture, therefore since to avoid the risk of subdivision upon inheritance. In the twentieth century too several, however less effectual, attempts were made to halt the fragmentation of plots of farming, and to facilitate land-exchanges that would consolidate scattered holdings. Legislation was passed to ease the burden on 'encumbered estates' whose subsistence was threatened through bad administration or misfortune. The Court of Wards, first introduced into Bengal in 1790 and 1793, provided for the temporary management of an estate through the Board of Revenue, where necessary or requested, in the stead of an 'incapable *zamindar*'.

Especially after riots in the Deccan in 1875, a host of more common events sought to protect landholders in the temporarily-settled regions against moneylenders who, supposedly, were snapping up land-rights and disturbing the time-honoured political and social equilibrium of the countryside. Several laws qualified the advantage given to creditors through the increased security of landed property, including tenancies, and through the operation of the laws of contract. The mainly extreme of these was the Punjab Alienation of Land Act of 1900, which tried to restrict land transfer to recognised agriculturists, members of the 'tribes and castes' listed in a schedule to the Act.

Tenancy Reform

Whereas in the first half of the nineteenth century the government sought most to ensure that revenue was paid promptly, in the second half it became more concerned with agricultural growth. This matched the demands of British industry for raw materials and markets, but also responded to worries in relation to the rural unrest and in relation to the condition and vulnerability of the poor. Such concerns had become significant to policy and to political debate from the late 1830s onwards. One consequence was an effort once again to exploit property rights since a means of securing political and economic goals. Slowly the thought of state-enforced rights was applied further and further down the tenurial and social level. Several Tenancy Acts set out both to protect larger land-owning interests and to give a measure of security to the cultivators. In the second half of the nineteenth century these enactments began to provide few rights to those who held land from landlords rather than directly or indirectly from the state. In Bengal, the Rent Act of 1859, while purporting to help *zamindars* collect rents, also recorded since settled or occupancy tenants those who had held land for twelve years. It placed restrictions on the enhancement of rents. It also sought to improve landlord-tenant dealings, and the more effective settlement of agrarian disputes.

Defects in this legislation, and more radical impulses for reform in the aftermath of further famine and rural unrest, led to the Bengal Tenancy Act of 1885, which added two biggest points. Firstly, there were more elaborate classifications of tenants and gradations of rights, with a presumption of occupancy status in a village for all those holding any land in that village. In several regions this status now applied to big majorities of first-tier tenants. Secondly, there was provision for survey and resolution, to set up and record rights, holdings and rents, through analogy with the processes in temporarily-settled regions. These had the effect, since operations proceeded, of establishing tenant rights and familiarizing people with them. Indian legislation was convinced through the ideas of fair and fixed rents and close tenure that had been popularized throughout tenancy debates in Ireland, where they took on a populist and nationalist hue. More significant, though, was that the 1885 Act extended the Punjab peasant-proprietary model. The occupancy tenants of Bengal and Bihar were being ensured a type of property in their landholdings, in order to encourage them to invest in agriculture – to create them, in short, rich peasants.

The trend after 1885 was for the principles of the Bengal Act to be extended elsewhere, such since to the Central Provinces in 1895. But it was overtaken through events intended to regulate all characteristics of agrarian dealings. Other areas had also had tenancy legislation, but requires were dissimilar where numerous cultivators rather than landlords were the ostensible revenue-payers. In the twentieth century, too, further events were taken in Bengal and Bihar to afford few legal defenses to sub-tenants, share-croppers and labour. None of these, strictly, related to property. Rather they

built on arguments in relation to the equity. The role of government was being extended. It was no longer content merely to frame the agrarian building in the hope of promoting commercial expansion and securing its revenue. It now placed a new emphasis on investigation and statistics, on agricultural experiments and credit provision, and even on direct intervention, since section of broader social and economic strategies.

New Types of Land Rights

Agrarian policy towards land rights, measured in separation, therefore retained an echo of the minimal government favoured in the eighteenth century and through *laissez-faire* doctrines in the nineteenth. This does not mean it was not radically dissimilar from what had gone before. Colonial policy introduced new ideas in relation to the land exploit and kinds of land manage. These ideas were general to the dissimilar types of agrarian policy. It used to be idea that British laws created land-ownership in India, but it is now plain that this depends on what is meant through the term. In few senses there was private property in land in India from the earliest historical times. Religious notions of renunciation depended on it, since did payments and grants to kings, temples, elites, co-sharers, workers and artisans. In excess of time, dissimilar states establish sophisticated methods of measuring and defining land rights, including surveys, records and title deeds. Land-rights could be sold and inherited; and there were stories and theories in relation to the ultimate origins, and in relation to the proper activities of landholders. The holders would enjoy one or more of extremely several specific types of tenure. Of course land-rights were not absolute – they never are – and they could be lost through force or usurpation. They would be qualified through obligations to pay land taxes and/or to supply materials and manpower. They were subject to communal and joint-family obligations, and usually to the rights of others, both superiors and inferiors. All these things also applied to land rights under the British.

What colonial laws and policies did to land rights was more subtle, in theory and also increasingly in practice. They reduced the number of dissimilar kinds of right to those only which the law specified. They made each kind's benefits and obligations more definite – through legal definitions, through more precise measurement by scientific surveys, through more exact records, and through the decisions of a hierarchy of courts. They applied uniform concepts to all land: that is, they tried to deny the subsistence of land of doubtful or shared ownership. There were no sacred groves or shrines that did not belong to a temple or a *mahant*; no forest or flood-plain without owners; no home, well, *ghat* or bazaar without a proprietor. The owner did not require to be an individual, of course. The owner could be a family, a village, a corporation, or the state. But for all

that, only one type of ‘ownership’ was to be recognised, the type recognized in the state’s law. Several regional variants and distinctions, and few pragmatic responses to circumstance, were ignored or overridden, for instance, flanked by types of co-sharers, flanked by resident and non-resident landholders, or flanked by high and low castes. Other preexisting kinds were reinforced and generalised, at least in the law, since new categories of landlords, intermediary tenure-holders, tenants and sub-tenants, and later of settled and occupancy tenants or tenants-at-will.

Now, the aspects or ‘incidents’ of property were always spelled out. A *zamindar* in Mughal times had any of a range of possible rights, but in scrupulous he had the duty to collect revenue for the state, retaining a proportion for himself. His revenue-collecting right derived from Mughal power; in regulation districts even the amounts of the collections were theoretically specified through surveys and rules. In addition the *zamindar* might have chiefly dominations, derived from his regional socio-political standing: his character, caste or lineage, and his command of retainers. These dominations accepted few obligations to the society, and certainly produced further income, for instance by tolls, manage in excess of markets, payments for credit, exploit of forced labour, and further shares of produce. There would have also been others occupying and by *the similar land*, who might likewise have had effective rights in excess of it, for instance a right to cultivate, or to reside in a village and use village possessions. Such rights too fell into scrupulous categories and had specific names, and, presently like *zamindari* rights, they could be derived from license, or custom, or domination. Pre-colonial rights so could be of dissimilar kinds and degrees, and could overlap in relation to the similar plot of land. Within British territory, all landowning became in one sense identical, since a complete collection of rights to land, unless little legal provision said otherwise. Landlords were given exclusive titles to specified regions, with qualifications made through law reserving sure other rights for the state, for sub proprietors or for privileged tenants. All these rights derived from the state and its laws, while any unspecified sub-rights derived only from the landlord. The *khudkasht raiyat* – a cultivator with larger, residence rights in a locality – was turned into a ‘tenant’, for instance. And if he was not provided for in the state’s regulations, he could legally gain the right to exploit land only through – that is, by an agreement he made with the landlord. He might have privileges or he might have no security of tenure; and in theory this was decided through law not force. Many provisions turned land into a commodity that could be readily bought and sold, firstly because it could not be arbitrarily seized through the powerful, not even through the state itself, and secondly because it was mainly free from encumbrances.

One consequence was that ‘rent’ and hence ‘*abwabs*’ also changed their meaning. Payments of several types had always been made to social and political superiors, on dissimilar pretexts, sanctioned partly through the state and partly through custom, and just as to what was idea fair or

affordable, or what could be extorted given the comparative domination of the parties involved. Now, there was merely 'rent', meaning a contractual payment for the exploit of land. Anything beyond 'rent' became illegal. In the absence of formal leases, and given colonial expressions of respect for Indian 'custom', it took an extensive time before this legal distinction meant anything much in reality. But ultimately rents became more regulated, and 'illegal' cesses and dues became much harder to exact. These changes placed pressure upon landlords, and forced them to devise new methods of securing their incomes. Few left the land to bigger-resourced managers or more skilful agriculturists. Others improved their own administration, or cultivated more on their own explanation, or hardened the conditions offered to bonded labour and share-croppers. This leads on to another significant point, that the British related ownership to *exploit*. Like mainly other states, they favoured settled agriculture in excess of all other manners of land-utilization; however they also created reserved forests. They deliberately set land-revenue rates – and intended the systems and chose the revenue payers – in order to maximize commercial manufacture, however oddly they chose to do this while thinking they were conserving an old order, and while trying to create land tenure more close.

Moreover, land which was not in regular exploit the British defined since 'waste'. Much of such 'waste' they denied to landholders and societies who had had informal shared manage in excess of it; they resumed it for the state or allocated it to private owners. Moreover, they greatly reduced the regions that were revenuefree. Earlier regimes had left huge amounts of land and its produce in the hands of others, to pay for public services and goods, and had drawn much government income from their own state lands. The colonial government was not eager to control lands directly or to seem to state land since a biggest source of income. And they recognised revenue-free lands only where they could not avoid doing therefore. Because they wanted to ensure the validity of titles to land, they had to respect specific, unimpeachable, written revenue-free rights, whether from before or after British rule. But for their own section, even when they needed to illustrate scrupulous spots of favour through creation land-grants, for instance to soldiers in the Punjab, they extremely seldom awarded them revenue-free. They preferred to encourage marketing and to collect cash into the treasuries, and then to govern by employees who were paid in money. What all this implies is a scrupulous thought of the purpose of land: it was to be cultivated, to produce crops that could be sold. The land had to pay, to its owner and then to the state. This was not wholly new of course, since all states and for that matter all settled cultivators had always had much the similar thought in relation to the land. Use of land possessions and the human shaping of landscape certainly extensive preceded colonial rule in India and one should not imagine that there was few type of pre-colonial ecological harmony flanked by man and soil.

But the commercial exploit of land did become, in British rhetoric, approximately the only, the hegemonic thought of what land was for, and this undoubtedly reduced the grip of alternative views: for instance, of land since a lay of ritual, in such behaviors since ploughing, sowing and harvesting; of land since sacred and since the foundation of the political order; of land since patrimony, or a general good for kin or society; of land since a public store of wealth to be drawn on since necessary; of land since a means of expressing and enforcing social traditions and distinctions.

Consequences

Did it all matter? We return briefly to a couple of the issues raised at the beginning. Other conclusions would also be possible, in regard to all the issues raised then.

Differentiation

One consequence of all colonial agrarian policy was the firming up of social classes, and the hardening of divisions flanked by them. With regard to landholdings the proof is unequivocal. There was a tendency for superior holdings to become relatively more profitable, to preserve their integrity, and to uphold or even augment their share of total cultivated region. There was also a tendency for the number of smaller holdings to augment, and for their mass and share to diminish. These related tendencies had dissimilar starting-points and took dissimilar shapes in dissimilar spaces; and there were variations flanked by permanently- and temporarily-settled tracts, and flanked by irrigated and arid lands. But, broadly, these similar two characteristics can be seen everywhere, in the middle of and flanked by holdings with several dissimilar types of title, in lands dominated through big land-owners, and in lands under peasant-proprietors.

There had always been several landless in India, and migrant populations of several types. Under colonial rule the pressure increased for people to settle on land and cultivate it, but superior proportions than ever were unable to subsist from the land in their possession. The rising numbers in municipalities and in factories were too little proportionately to compensate for this transform, especially since population and standard life-expectancy rose. Micro-holdings – and sharecropping, and food from landlords' house farms – often became devices to lower cash wages. There was an impoverishment of big parts of India's population. Several factors contributed to this, but a significant contribution was made through the extremely big augment in the numbers of people who could not live through their land alone but had to rely on employment through others.

Politics and Civic Character

The property laws and agrarian policies of the colonial state were related to a number of dissimilar ideas, of political economy in scrupulous; for instance: property rights, landlordism and village society. These ideas were influential, partly because exemplified in real events of government and law. Therefore Mahatma Gandhi had a vision of an India of self-regulating, self-enough societies which were in few compliments indistinguishable from the ideal advanced through European anti-materialists and moralists, and also through few colonial policy-makers. The latter whispered the 'village republic' to be the original Indian method. They tried to recreate it not only in the Punjab but also elsewhere, since a foundation for tenancy and commercial manufacture and even for regional policing. Self-governing India sought *zamindari* abolition and land ceilings partly because of these colonial debates in relation to the best means of securing economic progress and social equity. This was another victory for the peasant-proprietary school, but also for the subterfuge, pragmatism and compromise that had none the less preserved the wealth and domination of several landed families. Several clusters recognized themselves by class interests that also drew on these debates, and the broader European discourse to which they had been indebted. The *zamindars* came first, with civilizations defending their political interests and seeking to reduce their liabilities. In Bengal in the 1870s and 1880s both additional regional taxation and tenancy laws were resisted since a 'confiscation of property'. On the other hand, since a defence of property, land revenue was repeatedly reduced since a proportion of incomes and of total tax throughout the colonial era, and rural taxation has remained comparatively low as independence.

Later, each formation of a *kisan sabha*, for instance, also reflected an intricate indigenous and colonial inheritance. Where a community was active, there were generally more successful agriculturists operating within a market economy, and new rivalries since a result of that upward mobility. There were often religious and social movements drawing on older texts and customs, and creation claims to status within an increasingly generalised *Varna* hierarchy. And there were always claims in relation to the fair tenancy and enjoyment of property, concepts that had been imbedded in colonial laws, and transmitted by management, courts, surveys and settlements. In short, powers from these agrarian policies can be seen in assumptions that nowadays are scarcely questioned. More than that, they may be traced in the extremely fabric of community. Take the case of Calcutta. It has extensive been dominated through upper-caste literate service and professional elites, the *bhadralok*. These were not the direct descendants of the mixed bag of landed magnates, merchants, bankers and office-holders that ran the eighteenth-century municipality. They were the product of a community made in big section through the permanent *zamindari* resolution. After an upheaval in which few great families were dispossessed, the resolution permitted the emergence of close and increasingly

prosperous landed classes. It allowed them to live absent from the land in the municipality; to build homes, temples, schools and hospitals; and to sponsor civilizations, printing, and other civic goods. True, it created several smaller and subordinate landed interests that were less close, indeed insufficient. But, on the other hand, it demanded a range of lesser employees, the managers, mediators, and clerks that worked the organization in practice, plus a host of professionals, especially lawyers.

The permanent resolution was based on regulation and then on statute, implying top-heavy and centralised private and public bureaucracies, regulated through the law-courts, rather than dispersed day-to-day hands-on management through landholder and state. Calcutta's concentration of writers and literate workers was the result, and they in turn required and manned Calcutta's offices, schools, newspapers and associations. Other types of revenue resolution encouraged other types of government and community. Colonial Calcutta and Bengal might be contrasted with Bombay and Madras, the administrative, commercial and industrial centres of areas with temporary *raiayatwari* settlements. They might also be compared with colonial Lahore and Punjab. The priorities of military recruitment since reflected in revenue and land policy, the emphasis on peasant proprietorship, the preservation of few great landed families, and in common a paternalist government defending its personalised rule and customary law: these agrarian policies help explain much of the Punjab's twentieth-century political history, before and after partition, and once again remind us of the formative power of agrarian policies.

PATTERNS OF COMMERCIALISATION

The Classical Approach to Indian Commercialisation

Through classifying social buildings just as to their dominant shape of social swap, several scholars have concluded that however commercialism had spread widely crossways pre-contemporary Eurasia, only Western Europe generated the globally expansive commercialisation that became capitalism. All histories of commercialisation are entangled with this thought, which therefore needs little historical reflection. Through 1890, the term was in wide circulation, and for the after that century, its usage accepted three implications: an economic organization based on private property, individual profit, and state enforced market principles appeared uniquely in Western Europe; it describes contemporary economic growth; but it also has rivals, based on socialism, communism, and non-European cultural customs. After 1990, the last of these implications faded absent, since the collapse of communist and socialist regimes gave the thought of

capitalism a stronger claim to universality, and a new phrase, “global capitalism,” came into circulation, to indicate a new world order in which capitalism has no rivals.

In this classical view, European capitalism generated commercialisation approximately the world. In India, British imperialism seems to have forced commerce into traditional civilizations, where the dominant element of social swap was an essentially self-enough village society, in which families, castes, and sects organized swap with their indigenous moral economy and with minimal recourse to money or markets. In the social building of traditional India, commerce operated only on the margins of village community; and merchants moved in the middle of villages and urban centers to shape swap relationships embedded in a community that strictly constrained commercial expansion. Traditional state organizations also constrained commerce, because, however states extracted taxes that entered markets, they also subjected social swap to the dominance of elites who treated markets only since means to enrich themselves. Reciprocal obligations and redistributive systems therefore squeezed merchants into strictly confined social roles and gave commercialisation no common indigenous impetus. In this classical perspective, Indian commercialisation began with British imperialism, which introduced capitalism and launched a dramatic transformation of India’s social building. Scholars differ in relation to the outcome. In common, though, they agree that the combined force of indigenous civilization and imperialist use prevented the replication of Western capitalism in India. Indian commercialisation therefore seems to be a historical procedure marked through a disjuncture based on the alienation of custom and modernity, which still coexistence uneasily in India.

Revising the History of Indian Commercialisation

Historical research designates that pre-contemporary India was actually quite open to commercialisation, which expanded steadily in excess of the centuries and more rapidly after 1500. Several in accessibled civilizations did subsist without commerce, but several areas of commercial expansion also urbanized. Pre-contemporary India comprised a huge, diverse mixture of civilizations and manners of social swap, rather than one traditional building. Instead of imagining that British capitalism invaded a traditional India where commerce played a marginal role, several scholars now envision British imperialism emerging inside and feeding itself on the broad circulation of commodities in commercialized Indian areas, and then expanding imperial domination to manage commercialisation to serve British interests. Indian commercialisation can therefore be understood since a hybrid procedure, combining regional and imperial energies, and transforming Indian

civilizations without producing drastic historical disjuncture, despite all the attending violence, clash, and radical social, cultural, and economic transform.

Such revised understandings of Indian commercialisation now inform scholarly disputes in relation to the uniquely European origins and character of capitalism. Global commercialisation may indeed have had several origins. Culturally separate shapes of capitalism may have appeared in several environments, linked to one another through Western imperialism, which made Western models of capitalism ideologically dominant. Rather than imagining that Europe forced Asia up the level of commercialisation, several scholars argue that historical capitalism inhabits shifting cultural places where diverse peoples have invented diverse capitalisms, in a world of rising inequality, where the thought of the West's unique capability to modernize the world became an ideological tool that served imperialism, nationalism, and Cold War, but no longer constrains the historical imagination.

Commercialisation in Pre-Contemporary India

Structural images of traditional India rest on the geographical premise that India was once a single territory filled with sedentary civilizations. India was from ancient times, though, a land of huge mobility, open to the mixing and movement of people, goods, ideas, civilizations, and technologies, through land, river, and sea. Land was abundant and migrations were consistent crossways lands flanked by the Silk Road and the Indian Ocean, where mobility typified social environments since much since sedentary life, and in several spaces and times, much more. The level of human mobility increased in every century. India was a land of opportunity for all types of migrants. Accessible proof allows us to speculate that throughout the two centuries after 1600, approximately half the total population of southern Asia may have comprised mobile artisans and workers; peasants colonizing new land; nomadic merchants and nomads; pilgrims; shifting cultivators and hunters; migratory service workers and literati; herders and transporters; people fleeing war, drought, and flood; and soldiers and camp followers supplying troops on the move.

All this mobility entailed widespread clash and expanding commercial action, commodity manufacture, and economic interconnections. Mobility spawned market swap on circuits in the middle of spaces with diverse ecological endowments, where people dedicated in by regional possessions and traded products with other localities, close to and distant. Borderlands flanked by forest and plain, valleys and uplands, and land and sea were mainly active commercial places. Caste civilizations embraced commercialism. Village people active in markets incorporated weavers, oil-pressers, toddy tappers, carpenters, ironsmiths, herders, hunters, and farmers producing tobacco,

dyes, spices, cotton, fruits, and vegetables. All diversity of cloth, metal, wood, stone, animals, and foodstuffs moved in markets. Elaborate cuisines, arts, and manufactures appeared in locations of commercial accumulation, where social elites stimulated consumer deals, since did rulers and religious organizations. Buddhism and Islam moved beside deal circuits. Hindu temples became central locations for commercial transactions. Pilgrimage and festivals spawned markets. Several people sold their labour for money, including well diggers, soldiers, and several other service workers.

Municipalities and cities urbanized since demographic collections of consumers and dedicated occupational clusters. Pre-contemporary urbanism was through no means confined to precincts of walled municipalities; it rather spread out to envelop settlements in walking or boating aloofness where mobile people and goods met in thick combinations. State revenues depended especially on areas where people and deal concentrated, where taxes enriched financiers who invested in deal, money swap, and state taxation. Areas of commercialism urbanized approximately such locations, whose power expanded into hinterlands, creating geographies of commercialisation, anchored in regional combinations of state domination, religious power, and social solidarity, linked through deal circuits and enriched through networks of mobility with no boundaries whatever.

Political Territories in Commercial Places

Pre-contemporary commercialism moved in the middle of several locations, circuits, and organizations, and was never contained through political or cultural territory. Yet the political geography of the Mughal Empire had significant consequences for commercialisation, because it included commercial centers and circuits from Kabul to Dhaka and from Srinagar to Daultabad, and therefore produced unprecedented economic integration in the middle of areas of commercialism, each operating in its own environment yet linked through Mughal militarism, coinage, elites, entitlements, and taxation. Urbanism became more prominent beside circuits inside Mughal territory, which extended crossways southern Asia to Istanbul and Moscow, and crossways the Indian Ocean to Europe and America. The empire had political boundaries but no economic boundaries: all imperial borders remained entirely open to mobility that provided commercial assets for people inside Mughal territory. In the eighteenth century, Mughal borderlands became harder for Mughals to subdue and manage, since commercialisation enriched political competitors, including the Bengal Nawabs and British East India Company, who used Mughal techniques to generate revenues and draw commercial investors inside and outside territories of Mughal power.

Mughal borderlands of Indian commercialisation became heartlands for a new type of imperialism that arose in highly commercialized coastal areas approximately Bombay, Madras, and Calcutta. In these coastal areas, all the cultural mixing that typified pre-contemporary times made Europeans natives, not of India defined through inland territorialism, but rather of another India, defined through settler mobility in an Indian Ocean world without borders, where sea circuits came ashore on the Indian coast and channeled commerce in and out of Mughal domains. Eighteenth century land and sea circuits of Indian commercialism continued an expansively commercial militarism that occupied several inland rulers who funded war with cash revenues drawn from commercialized areas, with credit from rural and urban bankers, and with direct state borrowing from urban bankers. To this pool of military funding, the English added finances from speculators in London who banked on profits from British conquest in India. By this combination of commercial assets, the English acquired military supremacy, first on the Indian coast, then in valleys that channeled wealth to and from the coast, and then in the uplands.

Transitions to Capitalist Empire

From its Portuguese beginning, in 1498, European sea deals in Asia had strong military backing. In the eighteenth century, the English East India Company urbanized an expansive military foundation for its Indian commercial operations, which, after 1757, drew commercial capital increasingly from taxation in conquered territory, where British state power sold property entitlements to regional landed elites. In 1785, Warren Hastings defended his military priorities against critics in London through bragging that the Company's military "insured the blessing of peace, security, and abundance to the subjects of its immediate dominion, while it dealt out the terrors of conquest to the remotest enemies of the parent state ... while every other member of the British Empire was afflicted with the plagues of wars or insurrection." British wars with revolutionary France began soon after Lord Cornwallis became Governor Common, and through the 1790s, his boosters in London could brag that England had successfully used its military "to revive its arts, diffuse its manufactured productions, restore its revenue, and once more, to provide splendor to its empire." Throughout British wars against Napoleon, Tipu Sultan, and Marathas, an epochal shift occurred in the historic connection flanked by commerce and militarism, and therefore flanked by geographies of commerce and state territorialism. Previously, rulers had used armies to close territories where commerce expanded in linked but borderless places; now, the English used the military to force areas into commercial territories to benefit the parent state of the British Empire.

Militarism became a means to integrate commerce and state power inside the territorial order of capitalism.

After 1820, British industrialism appeared since a pre-eminent economic and political force, having been boosted financially through war state expenditure and Indian revenues. Since English industry took center level in imperial policy, English industrialists used state domination in excess of deal to advance their own interests and therefore impoverished weavers in Ireland and India, simultaneously. In decades from 1820 to 1860, since imperial armies conquered mainly of what became British India, English investors began to fund railways in the Indian Presidencies, to tighten manage in excess of Indian assets, militarily and commercially. Until the 1840s, mainly Indian revenues were assigned to meet the cost of conquest, management, and remittance, since deal policies shifted onto *laissez faire* rows to support Britain's global interests. In 1833, the Company became an agency serving British global enterprise, and therefore, soon after the abolition of slavery, in 1833, the Company arranged to send shiploads of indentured workers from Calcutta to replace slaves on English plantations in the West Indies. Through 1860, state-supervised indentured labour migration continued British plantations in north-eastern British Indian territories, conquered after 1820.

From 1823 to 1854, the swap value of the Indian Rupee declined which increased the real value of India taxation and made it more cost effective for government to invest Indian taxes in India. At the similar time, London sought outlets for British industrial capital and new supply systems for industrial raw materials. British state investments in India ensued, to cheapen imports, exports, and military operations and to augment revenue through extending British capital investments in plantations, railways, municipalities, roads, ports, shipping, irrigation, and other ventures. In the 1840s, a commission of Parliament met to believe methods to improve supplies of raw cotton to Lancashire mills. Bombay Presidency attracted special attention, beside with Egypt, since potential sources of raw cotton. The goal was to expand cotton exports from these areas to counter-balance England's dependence on cotton from the American South. When the US Civil War broke out, in 1860, Egypt and India filled a void in cotton supplies created through the Union blockade of Confederate ports in America.

After 1870, state investments produced foundations for India's contemporary growth regime. In 1871, the Indian Government obtained power to raise loans for productive purposes, and big irrigation projects began, following earlier success raising revenues from smaller projects. Imperial organizations then provided the technological, ideological, and political foundation for a contemporary organization of economic growth. Government projects focused sharply on the mainly commercially profitable agricultural crops. State investments employed native contractors and

benefited landowners producing commodities for domestic and export markets. This pattern of trickle-down growth patronage, which connected regional commercial environments to imperial routes of capital accumulation by the everyday practice of the state's productive investments, remained in state growth operations after 1947.

Spatial Patterns of Contemporary Commercialisation

From 1880 to 1920, Europe's High Imperialism organized global commercialism on a superior level than ever before. Statistical proof also appeared through which to measure global patterns of economic inequality, which have remained extraordinarily resilient as then. South Asia and all other subordinate imperial territories became increasingly poor compared to Europe and America. Flanked by 1870 and 1985, ratios of per capita income flanked by the world's richest and poorest countries increased more than six-fold. Today, economic inequality in the middle of rich and poor national economies is still rising. Through 1880, new spatial patterns of commercialisation had appeared in British India. Like Ceylon and Malaya, Assam became a quintessential plantation economy, where British investors drove out peasant producers and controlled markets in land, labour, and all other commodities. Indentured migrants from British territories worked plantation land, which had been taken absent through the state from indigenous mountain people. The state organized indentured labour migrations through landless workers, for example, from southern Tamil districts to Ceylon and Malaya, and from north India, Bihar, and Bengal to Assam.

British East Africa and British Burma also urbanized routes of capital accumulation anchored in India. In East and South Africa, merchants from Gujarat and emigrant workers from Bombay, Calcutta, and Madras built railways and urban centers. Flanked by 1896 and 1928, seventy-five percent of emigrants from Indian ports went to Ceylon and Malaya; ten percent, to Africa; nine percent, to the Caribbean; and the remaining six percent, to Fiji and Mauritius, which became island plantation economies. In Burma, Tamil Chettiars financed new rice farms in the Irrawaddy River delta, which generated vast exports of rice for world markets, including India, where urbanization increased demand for imported rice. The food crisis that generated the 1943 Bengal famine began when Japan conquered Burma and cut off rice supplies to Calcutta. Dedicated areas of farm manufacture urbanized in British India beside railways that led to biggest port municipalities. One biggest instance is the Deccan, which became cotton country, where commercial investments entangled approximately all farmers, poor and rich similar. In 1876, Deccan Riots were the first biggest conflict flanked by regional farmers and immigrant Indian financiers, and gave birth to official anxiety in relation to the village continuity throughout capitalist growth. This anxiety became

a biggest impetus for imperial theories of traditional village harmony, which needed support through state patronage for regional landed elites.

The responsiveness of Indian farmers to price incentives spawned several commercially dedicated areas with an export orientation, producing cotton, wheat, rice, coal, coke, jute, hides and skins, tea, ores, and wool. Data from 1914 illustrate that mainly Indian cotton left Bombay and came from Maharashtra. All tea came to Calcutta and Colombo from British plantations in Assam, Darjeeling, and hills approximately Kandy. Mainly export rice came to Rangoon. Wheat came primarily from meadows under state irrigation in Punjab and western United Provinces. Oilseeds came to Bombay from Hyderabad territory, the Central Provinces, and Bombay Presidency. Coal, coke, and ores came from Jharkhand to Calcutta and Bombay. Eastern Bengal produced approximately all the world's jute, which went to Scotland but also increasingly to jute mills approximately Calcutta.

Indian industrialism appeared in this context and accelerated commercialisation approximately biggest municipalities. After 1880, two decades of low prices in Europe and America and growing prices in South Asia encouraged investments in India through firms producing for Indian since well since world markets. Commodity prices in India rose rapidly after 1880, beside with export commodity manufacture, until the crash in 1929. These were decades of the mainly rapid expansion of commercial farm manufacture to that time. Early Indian industrialization was therefore impressive that the imperial Factory Act imposed rules on Indian factories to reduce their relative advantage in virtue of low regional labour costs and cheap access to raw materials in India. In 1887, J.N.Tata's Empress Mill arose at Nagpur, in the heart of cotton country. Tata Iron and Steel Works at Jamshedpur consumed rising supplies of ore and coal, which through the 1920s rivaled exports from Calcutta. In 1914, India was the world's fourth main industrial cotton textile producer. Coal, iron, steel, jute and other industries generated dedicated areas of heavy industry approximately Bombay, Ahmedabad, Nagpur, Kanpur, Calcutta, Jamshedpur, and Madras. World War one stimulated imperial policies to enhance India's industrialization to create India less dependent on imports; and the Great Depression, 1929-1933, again boosted industrial development through reducing prices for farm output compared to manufactures. Since a result, industrial output in British India grew steadily from 1913 to 1938 and was 58% higher at the end of the Depression than at the start of World War One; compared to slower and more uneven rates of development in the UK and Germany.

Through 1920, India had a intricate national economy, dominated through agriculture but including a big public sector, biggest centres of big-level industrial manufacture, and countless little-level industrial concerns producing cloth, leather, and metal goods. In 1913, manufactures comprised twenty percent of Indian exports, valued at ten percent of national income, figures never as

surpassed. In 1914, the US Consul at Bombay described India “one of the some big countries of the world where there is an ‘open door’ for the deal of all countries.” England was still India’s dominant trading partner, but losing ground. In 1914, the UK sent 63% of British India’s imports and received 25% of its exports; and through 1926, these figures stood at 51% and 21%, respectively. Through 1926, total deal with the UK averaged 32% for the five biggest ports. Bombay and Rangoon did 43% of overseas business with Asia and the Transitional East. Calcutta did a quarter of its business with America. Migration data also indicate the rising complexity of India since a area of the world economy. In 1911, the British numbered only 62% of resident Europeans in British India. Four times more immigrants arrived in India from Asia than from Europe, and seven of ten came from Nepal and Afghanistan. In 1911, Nepalis entering India outnumbered resident Britons through fifty percent; total Asian immigrants numbered three times since several. Through 1921, Indian emigration distant exceeded immigration. Flanked by 1896 and 1928, 83% of 1,206,000 emigrants left British India from Madras, where mainly went to Ceylon and Malaya. Bombay emigrants went mostly to East and South Africa, and Calcutta emigrants, to Fiji and the West Indies. Through 1921, India’s contemporary Diaspora was well underway.

Geographical Continuities in Indian Commercialisation

The British began their Indian empire on the coast. Their domination then extended up river valleys into the interior, and finally, into highlands and mountains. These coasts, river valleys, highlands, and mountains had been distinctive commercial environments before 1800, and however increasingly forged into a unified imperial pattern, remained distinctive in 1947. As then, national growth has not erased their distinctiveness. Before 1800, coastal environs had been mainly open to direct regional involvements with overseas commercialism, and after 1800, imperial capitalism concentrated first approximately ports. The imperial economic order then spread beside railways inland from Calcutta, Madras, and Bombay. Coastal ports became cosmopolitan locations for the mixing of inland and overseas civilizations and interests. Indications of this distinction seem in the 1911 census, which illustrates that English literates numbered less than 1% of the population of British India, but 12% of the population of Calcutta. Madras and Bombay shared with Calcutta extremely high figures for the percent of literate people who were literate in English. The mixing of old and new social elites was mainly intense beside the coast. Brahmans were in relation to the 6% of the total 1911 Indian population, with extremely high rates of English literacy, especially close to the coast. More than 25% of literate Brahmans were literate in English in Madras and Bengal Presidencies, and in relation to the 20% in Bombay Presidency.

British imperialism moved inland beside river valleys into uplands and areas, where the Mughals and their competitors, allies, and subordinates had held much more domination than beside the coast. In these areas, commercialisation after 1800 sustained to contain noticeably higher doses of state coercion, violence, and rebellion. Strategic alliances flanked by imperial and regional military force anchored the colonial regime. Cantonments and security installations marked the spatial and social institution of commercialisation. Post-1857 grants of vast Talukdar estates to old Zamindars in Western UP symbolize a broad accommodation of old military elites. In Punjab, military recruitment and establishments grew alongside state investment in irrigation canals that benefited military-peasant-landlords. In Bombay Presidency, Maratha jagirdars, sardars, inamdars, deshmukhs, and deshpandes kept old estates under new property laws. Imperial expansion into highlands and mountains combined the force of Indian and British lowland interests, which both moved into regions of shifting farming inhabited through clusters that became recognized since “tribals” in British India. Before 1947, several mountain territories were still not conquered sufficiently to allow full incorporation into the lowland economy, but several were. Coffee and tea planters took mountains approximately Assam and Mysore. Mountain forests everywhere became locations for commercial timber extraction.

Mainly highlands remote from centres of Mughal domination in 1700 remained remote from centres of political and economic domination in 1950, but commercialisation of the highlands increased with the expansion of lowland agrarian populations into the mountains, which steadily displaced tribal inhabitants, causing numerous clashes; and with the incorporation of tribal people into routes of labour migration in the plains, which, for instance, brought countless Nepalis into India, and included tribals into agrarian economies in Berar and Gujarat. Since India became a unified commercial economy, old areas of commercialism retained distinctive aspects and acquired new ones. The Mughal heartland became a corridor of British imperial investments that steadily increased the wealth of western areas compared to the east. This unequal growth continues today. Madras and Bombay hinterlands retained self-governing economic identities, since did commercial areas approximately Trivandrum, Bangalore, and Hyderabad. Mountain domains became increasingly marked through subordination to the plains, which disadvantaged regional populations compared to lowland immigrants. Highlands and arid lands became the contemporary boundary for agricultural expansion. From 1880 to 1980, the highest rates of augment in the ratio of total farmland to total land region seem in Tripura, Sikkim, Nagaland, Assam, Rajasthan, Mizoram, Arunachal Pradesh, and Orissa. The lowest figures seem in the old agrarian lowlands of Tamil Nadu, West Bengal, Uttar Pradesh, Maharashtra, and Kerala.

The Impact of Indian Commercialisation

Today, historians focus research on geographical areas in which patterns of transform indicate commercialisation had dissimilar meanings for dissimilar people and in dissimilar spaces and times. Few patterns emerge crossways areas and comprise national patterns in modern India. Local circumstances are significant everywhere: they continue today to inform prices, bonds of trust and credit, and social domination dealings that set effective rules of ownership and social swap. One good instance is commercial sugar farming, which has operated in eastern UP under the impress of regional landed elite power and in Maharashtra under the manage of staunchly self-governing landed entrepreneurs.

Commercialisation progressed beside with other changes that convinced its impact. Mainly importantly, the quantitative proportion of land and population shifted. India became a densely populated area of the world for the first time after 1850. Social competition for land and other natural possessions increased accordingly. The comparative market value of land and labour shifted: land become more precious compared to labour. The imperial state made landed property a strictly defined substance of legal possession. Landed property rights therefore became a contemporary institutional foundation for commercialisation. In this context, capital investments in land irrigation, commercial agriculture, and urban growth, augment the value of privileged land mainly rapidly and differentiated the landscape into locations defined through their respective attractiveness for investors. Technical transform in industry, transportation, and communication, enhanced the differential impact of commercialisation, through creation few locations especially precious for commercial investment, particularly approximately municipalities and cities. Urbanization advanced rapidly after 1900 and accelerated after 1947. The percent of India's population livelihood in urban centres increased through presently in excess of *one* percent throughout the first three decades after 1900, through *six* percent throughout the after that three, and through *eight* percent in the after that three decades. Ecological transform accelerated likewise. In *three* decades *after* 1950, livestock, net farming, and built-up land increased since much they had throughout *seven* previous decades, while forest cover declined at the similar rate and population grew in relation to the fifteen percent *faster*.

Commercialisation is therefore impossible to disentangle from other historical procedures that have also changed the composition of social environments. Political transform is significant in this context. Imperialism has structured commercialisation to serve Western interests. Nationalism has produced new state territories where politics buildings commercialisation to serve national interests. New state borders broke old circuits of commercial transit in few sections of South Asia, which had, for example, accepted land rents and jute from eastern Bengal to enrich the Calcutta *bhadralok* and to sustain Calcutta jute mills for several decades. The partition of Punjab caused huge

disruptions and severed several old commercial connections. India, Bangladesh, Pakistan, and Burma appeared since entirely new territories for commercialisation under national regimes whose respective histories have structured its impact ever as. In India, local state regimes appeared after 1956, which enhanced the regionalism of Indian commercialisation and continuities with local patterns that urbanized in pre-contemporary times and under British rule. In all Indian states, regional and local elites now engage commerce by domination and power to create rules that effectively govern the possession and swap of mainly commodities. India's integration since a national economy and its economic governance in New Delhi increased under a regime of national growth scheduling, which made the Indian bureaucracy and intelligentsia increasingly influential. The politics of commercialism in India today therefore involves regional, local, and national organizations, whose combined impact continues to differentiate the meanings of commercialisation. In a extensive-term perspective, commercialisation has comprised a procedure that began extensive before 1800 and accelerated thereafter to shift the balance and content of swap relationships everywhere in India. Two commodities, land and labour, indicate mainly clearly how that alteration describes Indian capitalism since a distinctive formation operating inside India's national borders. State laws pertain more forcefully to land and labour than to other items of swap, and the historical procedure of defining land and labour since commodities is even, in information, underway. Land reform laws eliminated Zamindar property rights and produced a profusion of little private holdings. Social movements continue to demand legal redefinitions of property rights. Labour laws pertain primarily to heavy industry and workers' rights in the informal and agricultural sectors remain subjects of on-going contestation and legal revision. Rural markets for land and labour are today, since they were a century ago, bound up tightly with the regional domination of landed elites and high status social clusters, whose role in law creation is mainly visible inside Indian states but increasingly visible at the national stage since well. The lowest status social clusters have small landed property and mostly job for higher status employers, since the market value of their labour continues to decline compared to the value of land, since poor land becomes poorer compared to rich land, and since fund capital exerts rising manage in excess of land and labour. In this light, it looks that Indian commercialisation evolved into Indian capitalism without causing a drastic disjuncture in the composition of the social building, allowing several old elite clusters to retain substantial manage in excess of commodity manufacture and swap. Political disjuncture's, which spot the history of British imperialism and Indian independence, also spot this development, since Indian commercialism changed in excess of time in a changing Indian landscape since well since in commercial places that escape the confines of Indian national territory. The extensive era of British rule collected a extensive transition from pre-contemporary Indian commercialism to modern Indian capitalism, throughout which contemporary

organizations came into subsistence that continue to exert substantial power on social dealings of economic growth.

Commercialisation transforms human experience through establishing commercial transactions in settings where markets had previously been away or unimportant, mainly notably in villages where the privatization of land eliminated customary rights to sustenance for landless families, who depended increasingly on informal contracts, indenture, and several shapes of bondage and trafficking. One dramatic instance of this dilemma emerged in 1981, when researchers establish in excess of four lakh low caste labourers from poor villages in northern Bihar working on rich farms in Ludhiana and Hoshiarpur districts of Punjab, where recruiters also brought Chhotanagpur tribals for employers who bid for them at auction. However this illegal deal had ceased through 1991, Punjab farmers were still advancing vast sums to bring Biharis to job in their meadows, and officials who establish workers held in bondage had them released to regional authorities.

Commercialisation has incorporated enrichment and destitution, for families, localities, and areas. However few progress in reducing the aggregate burden of poverty occurred before 1990, mainly rural Indians still hover close to the poverty row, mainly precariously in poor areas where capital investments are meagre, since in arid farm areas from eastern Maharashtra south to Rayalaseema, where the limitation of the green revolution to irrigated land is evident and the contrast with wealthy Punjab could not be greater, and where, in 1997-8, two hundred poor farmers, burdened with vast debts to plant cash crops, committed suicide when faced with crop failure, foreclosure, and destitution. When crop prices crashed in 1997, farmers mortgaged their land to moneylenders, and then drought, floods, and pests killed their crops. Farmers killed themselves through drinking pesticide, a symbol of the green revolution that left them behind.

Social disparities amidst commercialisation have emerged more clearly since scholars have more often applied a gender lens to the revise of transform. Land ownership remnants a male preserve in South Asia, and even more therefore, the administration of land since commercial property. The similar privatization of property that made village workers dependents of landed families turned even women in landed families labourers working for men inside patriarchal legal systems where the market value of female labour since children, wives, mothers, care givers, and wage workers increasingly defined their location in community. This entailed profound social transform, which occurred in excess of several decades and variously in dissimilar sites, but always operated inside gender ideologies that evoke traditional values and social norms to regulate transform within parameters that hold patriarchal domination in lay. Therefore, commercialisation also seems in the gendered lens of social research since one dynamic procedure in the middle of several others that comprise historical trajectories of Indian capitalism today.

FOREST ECONOMIES IN COLONIAL INDIA

Forests and Livelihoods

Mainly literature on forestry tells us that the forests of India were an abode of the tribal people who were primarily dependent on forests for their existence. This was true to a sure extent. But, forests provided crucial inputs not only for the subsistence of tribal clusters, but also of peasants, craftsmen and rustic societies. In this sense forests provided a legroom for the play of competing interests.

Forests and Agriculture

The connection flanked by forests and agricultural civilizations was often an antagonistic one. An expansion of farming often meant deforestation. But peasant settlers also depended on the forests for few of their daily requires like firewood and fodder. The intricate and contradictory connection flanked by forests and agriculture was mediated through a string of relationships of swap and manufacture. In the case of the UP Hills Dangwal has shown how general lands and forests provided tuber, fuel, vegetable, water, slate and silt. These products augmented the possessions of the peasants, and several of them were crucial for maintaining the ecological balance and soil fertility of the agrarian economy. Likewise in the Central Indian plains the forests shaped an significant section of the general possessions of the village. Village settlements and the *Wajib-ul arz* defined peasant rights on forests and commons. It was here that peasants came into get in touch with the tribal societies and often also employed them to graze cattle and collect firewood from the forests. In Central India, since in the UP Hills, expansion of farming led to deforestation and this at times affected climatic changes and aggravated the impact of drought, therefore forcing the poorer cultivators to depend on gathering forest fruits for consumption. In the case of cropping patterns it is apparent that few of the practices of shifting agriculture were adopted in peasant farming. The Gond cultivator's cycle was customized to exclude the practices of burning and cutting trees. Yet the fallows remained approximately the similar affecting productivity stages. This was not only apparent in the Central Provinces but also the UP Hills where peasants combined farming on higher altitude arid tracts with that on fertile lands in the valley. Therefore the expansion of farming into forestlands led to the transformation of the living of peasants, tribals and all associated in the superior agricultural organization.

Forests since Pasture Lands

The interface flanked by forests, agricultural economies and other general lands was also reflected in the seasonal exploit of forests and general lands for grazing. For instance in Himachal Pradesh herders had access to forest lands for seasonal grazing, but these grazing rights were leased out to them through regional villagers. Before the colonial era the contribution of forests to the regional economy was measured significant in the grant of land rights through the rulers of Chamba. Likewise Alpine grazing in Central Punjab was regulated through communal rights of herders in commons and forest lands and therefore grazing in the forests shaped an significant section of the annual rustic cycle. In the Central Provinces peasants, forest dwellers shared forestlands on the fringes of *ryotwari* villages, and specialist herdsmen like the Ahirs, Gowaries and the Banjaras. The Ahirs took the cattle for grazing into the forests and got wages from individual peasant households for doing the task. Their intimate relationships with the Gonds and others livelihood in the forest were a result of these daily excursions. Russell notes that in Chanda, the Ahirs had urbanized intimate links with the Gonds. They not only employed Gonds to graze cattle but also admitted them within the Ahir caste. In information, the origins of the Gowarie society of Chanda were traced to inter-marriage flanked by Gonds Ahirs. In Mandla, villagers idea that Ahirs were not section of the Hindu society since they existed with the Gonds.

The relationships of the Banjaras with the peasant and forest societies followed a dissimilar pattern. Edward Balfour, script in the 1840s, called the Banjaras of Central India since grain merchants who accepted their wares on pack oxen. They moved in excess of extensive distances, traversing hard terrain to get supplies that they took into districts where scarcity prevailed. Later, they also began supplying grain to the army camps acquired an significant status in the political economy of the Central Provinces. The Banjaras made their livelihood from the sale of salt and oil to forest dwellers and through transporting goods. Ethnographers have given instances of the Charans and the Banjaras carrying loads for the Rajput and the Maratha armies... Their skill to negotiate dense forests and ‘rugged’ terrain made them indispensable to the rulers who relied on them to carry messages and arms. The British so often condemned them since robbers and bandits. They also frequently grazed in the forests and their itinerant tract spanned from Mirzapur in East Uttar Pradesh to Andhra Pradesh, with Central Provinces falling in flanked by. Their utility to the peasant economy was minimal. However they sold a some milk products to the peasants, they never grazed peasant cattle. This was done through the more “trusted” grazers and residents of the village, like the Ahirs and Gowaries, who were seen since members of low castes, but incorporated in the organization of swaps within the village society.

Forests and Household Industry

They ensured the growth of wider linkages of forests with other economies. Let us believe those who made lac jewellery and toys. The craftsmen who worked with lac did not necessarily live inside the forest because upper caste peasants and craftsmen regarded lac propagation with superstitious repugnance. So these craftsmen bought lac seals from the Gonds, Korkus and Baigas. The lac seed swarmed twice a year, in December and June. Labour for its collection was necessary in June-July for the *baisakh* crop and in October-November for the *kartik* crop. Thereafter lac was taken to the markets where the forest dwellers sold it to the craftsmen. The largest lac market close to Mandla was in Seoni where lac was in great demand. After collection, stick lac was picked off the wood, and then the encrusted twigs and barks were placed in extensive cotton bags. These bags were heated and the lacquer gum squeezed from the seals and mixed with clay and other materials to create toys and bangles. As the best business for the Lakheras was throughout times of festival, therefore their income was seasonal. While their largest markets were in little cities like Mandla and Seoni in Madhya Pradesh, they also sold bangles in the villages. The attendance of lac artisans in the suburbs of cities and the mobility of the Korkus, Gonds and the Baigas to sell the lac, recognized intricate linkages flanked by the urban, agricultural and forest civilizations. The tribes establish themselves at the lower end of these networks. They had to walk extensive distances to get to the markets and had to sell their lac at prices that the artisans were willing to pay. Within the social hierarchy the Lakheras – the artisans who moulded lac – were larger to the tribal Baigas.

Same linkages flanked by urban centres and forests were apparent in the case of the dyers. The largest dyers of the province were the Koshtis, Chippas, Nillars, Rangaris and Rangrez. They dyed threads and cloths in traditional colours, most reds and yellow got from the roots of trees like *al*, *kusum* and *rohun*. Resin was extracted through tree tapping, and in few cases, through pounding roots. James Forsyth does not record whether resin or gum was extracted through the dyer or bought from the forest dweller. Rangrez and Rangaris wove silk-bordered cloths and dyed their own thread with lac or *palas* flowers. As they abhorred manual labour, it is likely that they bought stick lac, and *palas* flowers from forest people. Separately from this, the *tussar* silk industry and the silk weavers were dependent on the collection of silk cocoons through Gonds. Silk weavers, like Koshtis bought cocoons from the forest societies and boiled them, and wound the tread on reels. Dyers used myrabolans flowers to produce blue or black colours, while red dye was extracted from lac. Other cotton weavers like Chippas, Nillars and the Rangrez also bought flowers of a same type to create dyes for cloths. These dyers did not necessarily develop secure social dealings with the forest societies. Those like the Koshtis existed in cities, enjoyed a good income, and exercised domination in their dealings with forest societies. But the reluctance of these artisans to go into the forest to

collect their own resins also made them dependent on mobile forest dwellers. A same inter-linkage flanked by household industry and peasant economies could be seen in the region of iron smithy and rural engineering. Regional iron ore smelters and craftsmen, especially the Agrarians, mined iron ore in the forested regions, and repaired the implements of both the tribal people and the peasants. They were also grain traders who supplied granules to tribal people in times of stress. Therefore we see that the forest economy was not a closed economy, nor was it an economy that revolved only approximately trees. Rather forests were section of a superior agrarian organization that provided support services to peasants, pastoralists and artisans. So changes in forest administration had implications for all such clusters in dissimilar localities and areas. Colonial interventions in forest and agrarian civilizations ought to be seen in this context.

Forestry and the Colonialism

From the transitional of nineteenth century 'scientific forestry' was introduced in mainly sections of the country. One of the largest aims of scientific forestry was to exert manage in excess of forests and ensure that forests were used for superior imperial interests. An expansion of railways meant a demand for timber for sleepers; and the forests had to feed this demand. The impact of this was particularly felt in the North Western Provinces, the Garhwal area with *deodar* and *chir* trees and Central Provinces with *sal* trees. The forested regions in Central Provinces were contracted out for felling of *sal* even before the formation of the forest department in 1864. Throughout this era the colonial government successfully negotiated the lease of *deodar* and *chir* forests of the Tehri Garhwal kingdom and the annual profit from these forests increased in excess of the years, and was in relation to the Rs. 1.6 lakh flanked by 1910-1925. Same trades were made with the rulers of Himachal Pradesh, Sikkim and the Central Indian states. The strategic value of India's forests was enhanced in the inter-war era with 228,076 tones of timber being supplied to the specially created 'timber branch' of the munitions board, and 50,000 tones of fodder were supplied for military operations in Egypt and Iraq. Flanked by 1914 and 1919 in relation to the 1.7 million cubic meters of timber were exported annually for military operations. Beside with this the resin industry in Central India was a boon to the gun powder factories of France and America. This huge level of operations was not possible without the setting up of an long organization of manage and systematic use of forest possessions.

State Monopoly Versus Society Manage

After the establishment of state monopoly in excess of the forest regions under the Indian Forest Act 1865, the colonial state was in search of a more stringent piece of legislation to regulate the regional exploit of forested regions. This require was fulfilled through the Indian Forest Act 1878, but there was a serious debate in excess of the type of manage that should be exercised in excess of the forests. Officials like B.H. Baden Powell argued that the state had an irrevocable power on forest possessions and any right granted to the people would only be a 'privilege' received at the 'pleasure of the state'. This location refused to recognize the information that the forest dwellers, pastoralists and agricultural societies enjoyed few customary rights in the forests and were so entitled to exploit these possessions. The Commissioner of Madras argued that village woodlands were not village 'privilege' but village property, thereby inadvertently admitting that the state had no absolute manage in excess of forests. The first Inspector Common of Forests, Dietrich Brandis, tried to mediate flanked by these two ends of the spectrum. While Brandis himself whispered in the critical role of the 'village forests', and agreed with the Madras government that regional people in India should have rights same to the rights of a user in Europe. But he proposed an in-flanked by location to reconcile the opposed arguments, suggesting that the rights in village forests should be exercised under the overall manage of the state. Therefore he advocated a restricted take in excess of forests through the State.

Global Industrial Capitalism and Forest Variety

The importance of dissimilar kinds of forest produce in dissimilar eras reflects the nature of the changing forest administration practices and their connection with regional people. In the mid-nineteenth century, especially after the formation of the forest department in 1865, forest produce was classified into biggest and minor forest produce. At that time the criteria of classification were based on the way of extraction of the product and its commercial value. Its commercial value was in turn recognized by demand in the world market. This was also reflected in the scientific interest of the foresters themselves in few of the medicinal plants, herbs and economically significant products like *katha* and bamboo. This point was especially noted through Richard Tucker in the case of the Western Himalayas, where he showed that however the foresters of the area, had an intellectual curiosity for documenting non-timber forest produce, but had left its administration to the market by the organization of imposition of a low license fee for *katha* collection through the contractors, who in turn made large profits.

In contrast a much more proactive role of industrial capitalism and the market was seen in the forests of the Central Provinces. The first proof of growing international demand for minor forest produce was seen in the growing prices of lac that had several industrial exploits in America, England and Germany and the exported lac was often converted into shellac in these countries in the nineteenth century. The initial efforts to vary the methods in which lac was propagated and new diversities of lac introduced, failed in the Central Provinces. The government noted that as the province was not capable of yielding lac of real value it was not worthwhile for the government to take up lac farming on its own. So it was measured bigger if private agencies and contractors were given the right to propagate lac. Therefore the European managing agencies like Messrs. Jardine and Skinner were given the first contracts for forests of Sambalpur. The District Commissioner of Sambalpur, Bowie reasoned that, the “propagation of lac is only accepted on through Gonds, Binjiwars and other jungle tribes who are poor and always need advances to survive. While they propagate lac the government can only provide advances if it has the lease of the jungle. Through taking a royalty, the interests of the government and the firm will be kept identical”. This official assertion of the compatibility of the Gond, official and industrial interests was one of the first steps towards the inclusion of Binjiwars into the world market. The royalty and advance were indicative of the attendance of the European agencies in the forest economy. The managing agency used their knowledge and technique to propagate lac and reap vast profits.

Through 1919 the colonial government claimed that the ways used through the forest societies were inefficient for size propagation. R.S. Troup contended that the ways of regional lac propagation were inadequate in at least two methods: the expenses involved in searching for the lac bearing shoots and big quantities of lac are wasted due to the time taken to collect lac. The Forest Research Institute, where Troup worked, accepted out lac experiments to see the extent to which these disadvantages could be minimized. But since Troup pointed out the experiments led to no conclusive results in the techniques for propagating lac. The ambivalent results, Troup felt, were a result of the information that the experiments were accepted out in the lower Shivaliks, a area distinctly unsuitable for lac farming. Though he suggested few circumstances under which lac farming could be accepted out more effectively. The annual pollarding of lac trees, the development of trees in an open location, and the require for thinning trees more frequently, were recognized since few of the desirable steps to be undertaken. Troup and his team accepted out experiments in excess of ten years. They divided the forested tracts with trees of dissimilar girth and ages into strips and applied the lac worm at dissimilar times. At each time they recorded the amount of lac that they got from the tree. In this method they determined the ideal circumstances for the harvest of lac. While these experiments were being accepted out the Chief Commissioner of the Central Provinces

proposed the introduction of machinery in lac farming. He felt that through introducing technical innovations in forests the manufacture of lac could augment and the manufacture procedure become more efficient. This would save the attempt of watching the lac during the season, and confine the exploit of labour to the collecting procedure. He refuted the proposition that the employment opportunities of the Binjiwars and Gonds would be affected if this happened and instead stated that the measure would help tribal lac collectors to strike a bigger bargain with the representatives of managing agencies. In order to maximize manufacture and assess the value of lac, many government sponsored experiments were accepted out in the early 20 century. A number of techniques were tried to improve the excellence of the seeds, minimize labour required and reduce the injury to trees. But the accounted failure of all attempts proved that the ways used through forest dwellers and the peasants were more effective especially in conditions of their cost efficiency. Therefore the European managers sustained to incorporate regional techniques for lac propagation within its organization of collection and manufacture.

One of the largest causes for this was the require for the continuous and rapid supply of lac and shellac to the European industry in the inter-war era. This era also saw a significant transform in the nature of deal. While in the nineteenth century significant amounts of shellac was being produced outside the country, in the pre and inter war era few shellac producing elements came up in urban regions on the hinterland. For instance the Divisional Forest Administrator of Bilaspur Division noted that a button and shellac company had been recognized in Champa through a European firm to reduce the charges of the middleman and save on freight carriage to Europe. Through the 1940s there were 35 shellac factories in Chhattisgarh that produced 16 per cent of the lac in the whole country. The influx of European capital in lac provided the forest societies with seasonal employment in the forest regions. The expansion of lac manufacture created labour opportunities for the Bhumias and Gonds who started working for managing agencies like Jardine and Skinner. These opportunities were significant for their subsistence in the wake of restrictions in excess of forest exploit especially after the reservation of forests in 1878. The first adverse impact of this was seen on the inter-linkages flanked by the artisan and the forest dwellers. The forest dweller started supplying lac to the mediators of the European firm instead of the artisan. The leasing organization created monopolies of managing firms in excess of forests and labour, pushing out smaller lac artisans from the market. It also put tribal lac collectors at the mercy of European capitalist firms whose largest interest place in by cheap labour to propagate and export lac. It was the similar constraints that also unleashed two other trends in the Central Provinces. The first was the one where substitution of forest produce took lay in industrial procedures. The mainly prominent instance of this was the dyeing industry of the Province where several natural dyeing ways were replaced through chemical dyes for foreign cotton

and synthetic cloths. This led to a sure amount of 'deindustrialization' within the regional economy since pointed out through Tirthankar Roy. Another trend was the incorporation of regional artisans into the Imperial organization of taxation and manufacture since seen in the case of the Agrarians of the Central Provinces. These variegated trends though underlined one general tendency, i.e., the manipulation of regional circumstances to meet the requires of the world capitalist organization by the colonial machinery. And it was this objective that ensured that not only timber trees but also the trees significant for few of the therefore described 'minor forest produce' were preserved through the state conservation organization.

Reordering Customary Rights in Forests and the Commons

Despite the valiant attempt of the people like Brandis at the decentralization of forest administration, it is possible to argue that such arguments for regional institutional manage in excess of forests did not tamper with the vital building of British Imperial forestry. In information they created the foundation for the restructuring of the regional economy of forest exploit and its integration into the superior colonial economy. The case of the unique *nistar* or customary exploit rights in the Central Provinces proves the point adequately. The organization of commutation used here made the state an active participant in the administration of forest exploit. Under this organization the element of assessment would be the household. Each household was to create a little annual contribution to the government and in return earned the right to pick firewood and grass, but purely for household requires. Of course, the officials termed even this since a privilege, therefore denying the household all its customary rights. In this sense the provincial forest policy followed Baden-Powell's conventional location that recognised custom since a privilege and not a right that the regional people could demand. At the similar time Brandis' recognizing that regional demands were crucial to the subsistence of colonial manage in excess of forested regions was also acknowledged under the commutation organization. Historians like Guha have often argued that Brandis was the father of current day participatory forestry that has characterised Joint Forest Administration. But the issues raised through the commutation organization related to the definition of 'household requires'. In Chanda the district management held that every village would be assessed at two *annas* per household. This fixed rate would apply to the extraction of firewood and charcoal. In other languages the people were allowed to take firewood, fuel and charcoal worth two *annas*. Other produce like *mahua*, lac and *harra* were fixed at a rate of three *annas* and an equivalent amount of this produce could be composed through households who chose to pay this sum. Only firewood and fuel were measured essential for household requires and so the charges on them were a fixed at a lower rate than other minor forest produce. This meant that a range of other produce for

example, ritual food such as liquor, *harra* and *mahua* - was measured a luxury. Within this limited view, the officials assumed that the requires of every household were same and that the consumption followed a uniform pattern – both in conditions of quantity and the type of produce consumed. Whether the household contained 4 or 8 people, they were only entitled to 2 *annas* worth of fuel and firewood. Through defining requires in this manner the state sought to regulate regional practice through by the thoughts of demand and supply and balancing them against the working and regeneration of forest produce therefore that extensive-term advantages could be drawn out of it.

Same redefinition was done for the rights of the pastoralists whose movements were also controlled. The animals were to be divided into two classes: cattle belonging to agriculturists and grazing for agricultural purposes; and cattle belonging to professional grazers and traders. The first category was further divided into regional privileged grazers and cattle coming from other localities. The cattle of professional grazers were classified since follows: agricultural cattle of peasants including milk cows for private exploit; milk cattle used for profits and other cattle used for profits through rustic people. A sharp separation was drawn flanked by commercial and existence shapes. Though in actuality the making of the grazing commons illustrate that the nature of the grazing and milking behaviors was such that it was hard to distinguish flanked by commercial and existence requires. Such a divorce flanked by the pastoralists and the agrarian community was also seen in the case of Punjab where officials clearly stated that cattle could only be grazed for domestic and agricultural purposes. This kind of restructuring was done to maximise revenue and suit the extensive-term colonial ends of controlling the whole agrarian economy and the forest laws were a crucial section of this game plan.

DEMOGRAPHIC CHANGE AND AGRARIAN SOCIETY IN COLONIAL INDIA

Sources

The English East India Company and then the British Crown generated unprecedented quantities of information in the course of their attempts to conquer and rule India. In this revise of extensive term demographic changes in India as suggested, foundation our reconstruction primarily on colonial government sources since they constitute the only set of sources that are even around comparable in excess of a extensive era of time. Numbers have commanded respect for possessing sure inherent putative attributes- objectivity, comparability and extremely importantly, a promise of accuracy. Historians have a healthy suspicion of sources. The require is to take the supplied official

sources since incomplete reports of reality and then deploy clearly stated and transparent ways to correct them.

Early Census

The two largest sources that give us with demographic information for the colonial era are the decennial censuses and the annual basic registration statements. Maligned and overused in equal measure, the Census has been the mainly definitive and widely used source for demographic studies of the sub-continent. The first census of the whole country was mannered through the British in 1871-72. This has been followed through subsequent enumerations every ten years – even Britain cannot boast of this unbroken record, having had to skip the 1941 census. Historians of India and elsewhere have produced a fairly big corpus of literature contextualizing colonial sources of information in conditions of the changing ideology and mechanics of imperial power. One of the best and early critical discussions of the Indian census was through Bernard Cohn. Cohn pointed out that the Indian census was not merely a neutral tool for information gathering. The classificatory logic and shape of the census in turn created circumstances for new strategies of caste and status mobility and electoral contests. Numeric information was an ideal shape of expression for the colonial state. It elided variations of word, history, economy and community. At once it allowed the maddening complexity of India to be made comprehensible by numbers. That the colonial state felt was relevant at that scrupulous point in time. In a same vein Appadurai argues that the census allowed the “The vast variety of castes, sects, tribes, and other practical groupings of the Indian landscape ... rendered into a huge categorical landscape undeterred to the specificities of the agrarian landscape.” He goes on to claim that “This unyoking occurs in two biggest steps, one associated with the era before 1870, in which issues of land resolution and taxation are dominant colonial projects, and the other with the era from 1870 to 1931, the era of the great All-India census, in which the enumeration of human populations is the dominant project. The era from in relation to the 1840 to 1870 is the era of transition from one biggest orientation to the other.” The purpose here is not to talk about at length the procedures that went into the construction of colonial categories for social analysis and ordering but merely to emphasize that the apparatus of colonial social and economic information gathering require to be situated in the context of changing colonial perceptions, which in turn were related, however not always in clearly straightforward methods, to the varying demands of the colonial enterprise of imperialism.

The require for a census of India was felt through the English rulers much before the first census of India that was finally mannered in 1871 and 1872. A number of provinces had mannered population enumerations in the first half the nineteenth century but these were not intended in

tandem with other English administered territories. Almost certainly the first census in India to classify the enumerated population through sex, age, caste and dwelling elements was Henry Walter's 1830 census of Dacca municipality. However a number of provincial and regional enumerations were accepted out in dissimilar sections of the country in the second half of the century before 1871, the census of the North West Provinces taken on the night of 31 December 1852 with a reference date of 1 January 1853 was the first census mannered on contemporary rows. In 1849 the Government of India directed provincial governments to conduct quinquennial population enumerations on the rows of those accepted out in the North West Provinces through revenue officials. The Board of Revenue in a circular to all collectors, asked them to follow the North West Provinces' pattern with due attention to regional specificities while conducting the proposed quinquennial censuses. Madras was the only Presidency to have implemented this directive in full.

Following the Board of Revenue order Madras accepted out four enumerations in 1851-52, 1856-57, 1861-62 and 1866-67. The fifth quinquennial census was merged with the Imperial all India census of 1871-72. The quinquennial enumerations and the subsequent census figures suggest plausible and comparable rates of development. The first all India census was intended to be mannered in 1861 but had to be postponed to 1871 owing to the Rebellion of 1857 in the north and straitened financial conditions for the government. The aggregate population figures from 1871 seem quite constant and reliable. The first census of India was not accepted out simultaneously in all spaces. While it was mannered in November 1871 in Madras, Mysore and Coorg and Burma, it could be accepted out only in 1872 in the Central Provinces, Bombay, North West Provinces and Bengal.

As then the census has been mannered every ten years. Political troubles have in sure years forced the government to either abbreviate the scope of the census or omit sure regions. This revise exploits the colonial censuses from 1871-72 and the basic registration statistics to reconstruct colonial India's demographic history. A brief note on the strengths and limitations of each of these sources will be in order.

Limitations

All the post 1871-72 censuses were synchronous – i.e. accepted out simultaneously everywhere – population enumerations. Two censuses of the colonial era need special mention. The 1931 census was the last census for which caste or more accurately *jati* data was published. It has gained notoriety for its changed way of recording age and smoothed age sharings, which has made the published age figures non-comparable with earlier and later census, age sharings. In this census in contrast to earlier practice, the “age at after that birthday” was recorded in lay of the earlier “completed years”. Nationalist agitation was another factor that militated against this enumeration.

Further, the Sarda Act also led to inaccuracies in the age returns of unmarried girls: as child marriage became illegal, women's age was overstated throughout marriage to avoid possible penalty.

One significant growth in the context of the 1931 census was the Indian Fertility Enquiry of 1931. This enquiry "was not a section of the common census enquiry and was not sheltered through legislative enactment. It depended mainly on how distant district, Municipal and Regional Board administrators were prepared to assist." This partial but mainly useful survey suggests significant class and caste specific fertility patterns. The financial exigencies of the Second World War forced the government to drastically abbreviate the published statement and tables in 1941. The straitened conditions also led to a transform from household enumeration schedules to individual slips. Though, the individual slips were retained and this enabled a subsequent 2 per cent example, often referred to since the Y-Example after the Census Commissioner Yeatts, providing detailed age specific information on nuptial status and job and industry. Caste data for all individuals was recorded for the last time in 1941. After independence the recording of caste except for in cases of Scheduled Castes and Scheduled Tribes was stopped. A provisional list of Backward Classes was also prepared through this census. As 1951 post-enumeration checks were made frequently after each enumeration to check for accuracy. Changes were effected in economic classification. One significant administrative transform was that with the passing of the Census Act in 1948, the census was recognised since a single permanent organisation under the Ministry of House Affairs under a Registrar Common who was also the *ex-officio* Census Commissioner for India.

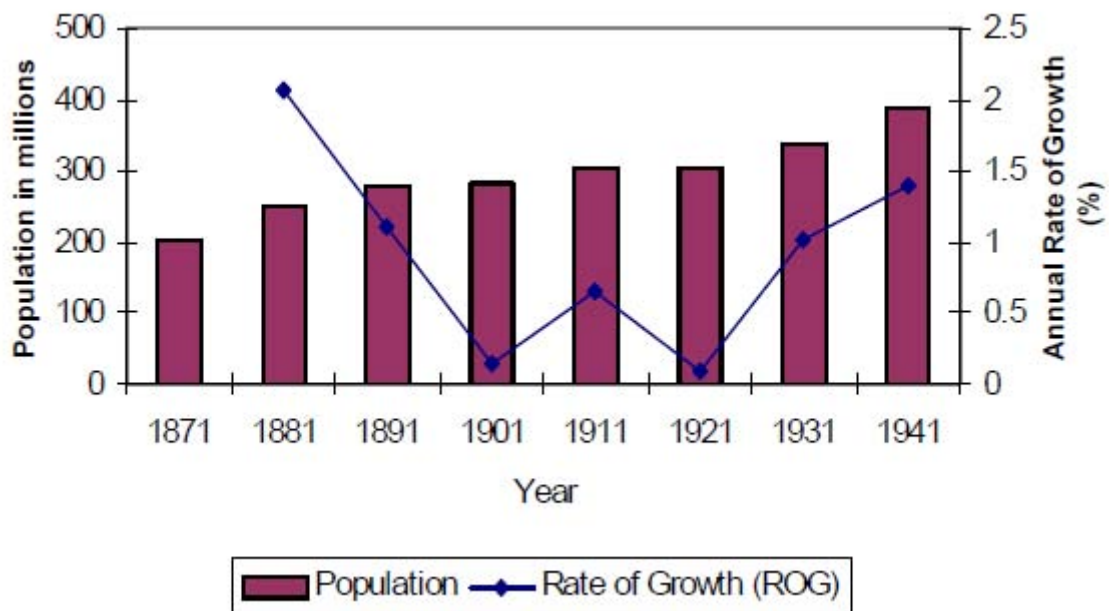
Indian census data has been plagued through the troubles not therefore much of under enumeration but age-sex selective undercounting and the poor excellence of age reporting. In several sections of India unmarried girls of marriageable age were not counted. Again, we discover that mainly Indians accounted their age wrongly and the accounted age data suffered from serious troubles of digit-preference and age-heaping. The unreliability of Indian age data has been corrected through by a diversity of smoothing techniques, but this further reduces the robustness of indirect estimates of mortality and fertility based on Indian census age-sharings. The second vital demographic data foundation for this revise is the annual series on births and deaths published through the government. This statement was recognized since the *Statement of the Sanitary Commissioner*. Subsequently its nomenclature changed to *The Statement of the Director of Public Health*. In the post independence years, these statistics at the district stage were published in the annual series recognized since the *Basic Statistics of India* which became accessible from 1958.

After appropriate corrections are made in the stage of the accounted basic statistics they give an invaluable source not in creation precise demographic projections but in charting the changing trends of annual fertility and mortality movements.

Question of Population Development

Let us see at the decennial trend of population development. Figure 1 charts the trends in population mass and the development rate of the population from 1871 to 1941. In absolute conditions, population grew steadily in excess of the era, rising from 203 million in 1871 to 389 million in 1941. But the rate of development illustrates a dissimilar picture. The highest rate of development is registered for the decade flanked by 1871 and 1881 despite severe famine mortality in Mysore, Madras and Bombay. The development rate for this era has been spuriously inflated through the bigger coverage in 1881 comparative to 1871-72. Central India, Rajasthan and Punjab which accounted for 3 million people in 1881 were not counted. Further, even in regions that were sheltered through census enumeration an estimated 12 million people escaped counting. From 1881 we discover that the absolute mass of the population increased gradually till 1921, but the annual rate of development showed a clearly declining trend till 1921. After 1921, the development rate exhibited a rapid upward trend.

Figure 1: Population Transform in Colonial India



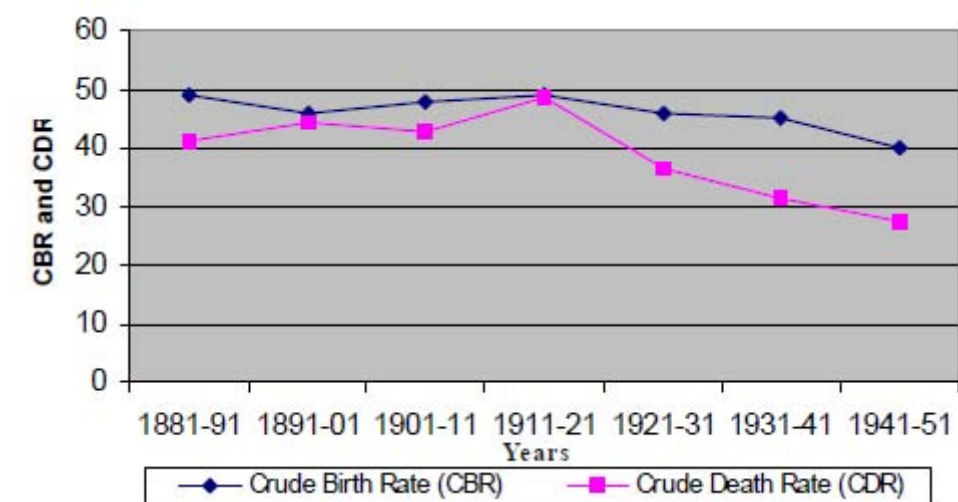
This brings us to the question of why population development in India showed a marked augment after 1921. To answer this question we see at two sets of determinants: demographic and non-demographic. The proportion of migrants to the country's total population was since little since 3 per cent? And showed small transform crossways time. This extremely little proportion of migrants

permits us to discount migration since a substantive factor in population transform and treat colonial India since a closed population. On taking migration out of the Balancing Equation we are left with births and deaths since the mainly significant variables explaining the course of India's population history. A continued excess of births in excess of deaths will lead to population augment whereas sustained excess deaths or frequent incidence of big excess mortality will result in population decline or stagnation. These demographic variables, it necessity be kept in mind, power one another and are closely related to a diversity of non-demographic powers. Let us first define the trends in mortality and fertility and then attempt to explain their varying stages and direction.

Mortality and Fertility Trends

Ideally annual mortality and fertility data should be taken from the basic registration series. The high degree of incompleteness in Indian historical basic registration data does not permit this, forcing us to depend on indirect census based estimates of mortality and fertility. Though, the partial registration data, indirect census based estimates since well since interregional development rates all confirm high mortality till 1921 followed through a marked secular decline. The mortality and fertility curves illustrate that the fertility-mortality differential sharply increased in the post-1921 decades. A sustained excess of births in excess of deaths therefore clearly explain the rapid development in India's population after 1921. Figure 2 illustrates that fertility sustained to be high during the era of the colonial censuses whereas mortality declined sharply after 1921. Infant deaths shaped a big section of total deaths. The infant mortality trend moved in consonance with the CDR trend.

Figure 2: Mortality and Fertility Trends in Colonial India



Mortality

What explains this marked mortality transition in India? The more popular accounts highlight the reduced incidence of famines, epidemics and lethality of endemic diseases due to improved communications, irrigation, public sanitation and health care in the post 1921 years. These accounts can be established in the works of Kingsley Davis, S.N. Agarwala and Leela and Pravin Visaria. Davis suggested that famines were controlled by growth of roads, railways and irrigation through the British, and Contemporary medical advances checked epidemic diseases. To explain the reduction of famine mortality and intensity in conditions of irrigation is questionable. In the first forty three years of the twentieth century the country did remain free of any biggest famine. Though, the percentage of irrigated region to total cultivated region increased only marginally from 20 per cent in 1901 to 23 per cent in 1930. Improvement in communications is also an inadequate account for controlling famines. Bigger communications can reduce the risk and intensity of famine through ensuring more stable food supplies. This in turn will get reflected in the difference of food prices in the country. Though, famines recurred repeatedly in the years up to 1900. For the era 1865 to 1900 the coefficient of difference in the prices of wheat and rice fall from more than 40 per cent to almost 20 per cent. If this huge decrease in price difference could not prevent famines it is hard to argue that a subsequent fall in this index through in relation to the five percent could stop famines.

Leela and Pravin Visaria ascribe the slow rate of population augment up to 1921 to high mortality that was “primarily related to waves of epidemics.” It is true that epidemic and endemic diseases were biggest killers in colonial India, but what remains unexplained is why these diseases suddenly lose their lethal domination in the 1920s. It is true that famine and epidemic mortality greatly reduced in the post 1921 era. If this cannot be ascribed to economic improvement or improved health care, then how is this conundrum of India’s mortality transition to be explained? Ira Klein explains the falling trend in mortality in conditions of a transform in the host parasite dealings that invested the Indian population with greater immunity to diseases. This motivating thesis, in turn, has been refuted through Sumit Guha on the foundation of an examination of age-specific death rates. If the immunological account is correct then we should see differential improvement in mortality through age-cluster, but this is not therefore.

Guha, then goes on to explain the mortality decline in conditions of reduced fluctuations of food grain output after the second decade of the twentieth century which is explained through more stable rainfall in the 1925 to 1950 era comparative to the years flanked by 1900 to 1925. Guha associates this reduction in the marked volatility of food manufacture with the human host’s increased skill to resist potentially lethal diseases. It may be pointed out here that volatility in monsoon precipitation once again showed an rising trend in the post independence years. This

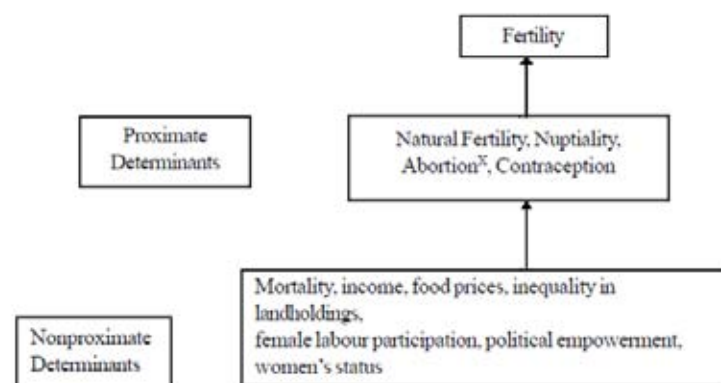
augment not being accompanied through worsening mortality may be explained through increased state intervention. The colonial mortality transition can be ascribed to the blessings of the rain gods only if we hold consistent the minimalist intervention of the colonial state in matters of agriculture and food security. Shiela Zurbrigg, also emphasises the secure interrelationship flanked by nutrition and disease exposure. From 1921 or after the influenza pandemic of 1918 the crude birth death rate began on a course of secular decrease.

Fertility

This brings us to the other largest determinant of population mass – fertility. In demography fertility refers to the number of live births expressed since a proportion of the total population, population of women etc. There is common consensus that India has had high fertility, however the recorded stages are much below the biological maximum of human population. Drawing upon Bongaarts' useful model, fertility is seen since the outcome of proximate and non-proximate determinants. The proximate determinants for which time series data are accessible for the whole era of the revise, are natural fertility. The data are not annual but accessible only at the time of the decennial census. The second cluster of variables, that Bongaarts categorized since non-proximate determinants of fertility are those that affected fertility *via* the proximate determinants, such since mortality, income, food prices, inequality in landholdings, female labour participation, political empowerment, women's status.

The chart 1 below gives a schematic view of the determinants of fertility that are studied here.

Chart 1: Determinants of Fertility



* Abortion has not been analysed for lack of quantitative information.

Demographers had in earlier discussions viewed pre-middle populations since characterised through uncontrolled high fertility. Louis Henry presented his concept of 'natural fertility' based on

his family reconstitution of Crulai in Normandy in 1953. Henry initially defined natural fertility since legitimate or marital fertility that was unchecked through either contraception or induced abortion. Henry defined ‘natural fertility’ since “fertility of a human population that creates no deliberate attempt to limit births.”. Subsequently, he refined it to “fertility in the absence of parity-dependent birth manages....”

There has been a big amount of job on the biological characteristics of human fertility and the biological maximum is supposed to be fifteen live births per woman. Though, even ‘natural fertility’ civilizations have experienced fertility stages much below this maximum. The variation flanked by total fertility and total fecundity in ‘natural fertility’ regimes can be explained mainly through the ‘exposure to risk’ which is governed primarily through the length of sexual partnership. Studies of natural fertility in India have estimated the natural fertility to be low in the pre-middle era at six births per woman in the 1930s rising to seven and nine in the 1970s and 1980s with improvements in healthcare. Sriya Iyer contains widowhood since a one of the depressants of natural fertility in India. Though, Henry’s two definitions and subsequent exploit of the term looks to exclude widowhood since a determinant of natural fertility; the latter being more related to the broad category of nuptiality. Estimating the stage of natural fertility in India for the historical era in conditions of lactation infecundity, post partum amenorrhea, coital frequency, etc. Is basically not possible in the absence of data. We after that approach to the other proximate determinant of fertility that is nuptiality. Although the annual basic registration series did not collect data on marriage, the decennial census does give us with data on marital status through age. This permits estimation of the proportion married through age and the mean age at marriage.

Figure 3: Proportion of Married per thousand Females and Mean Age at Marriage

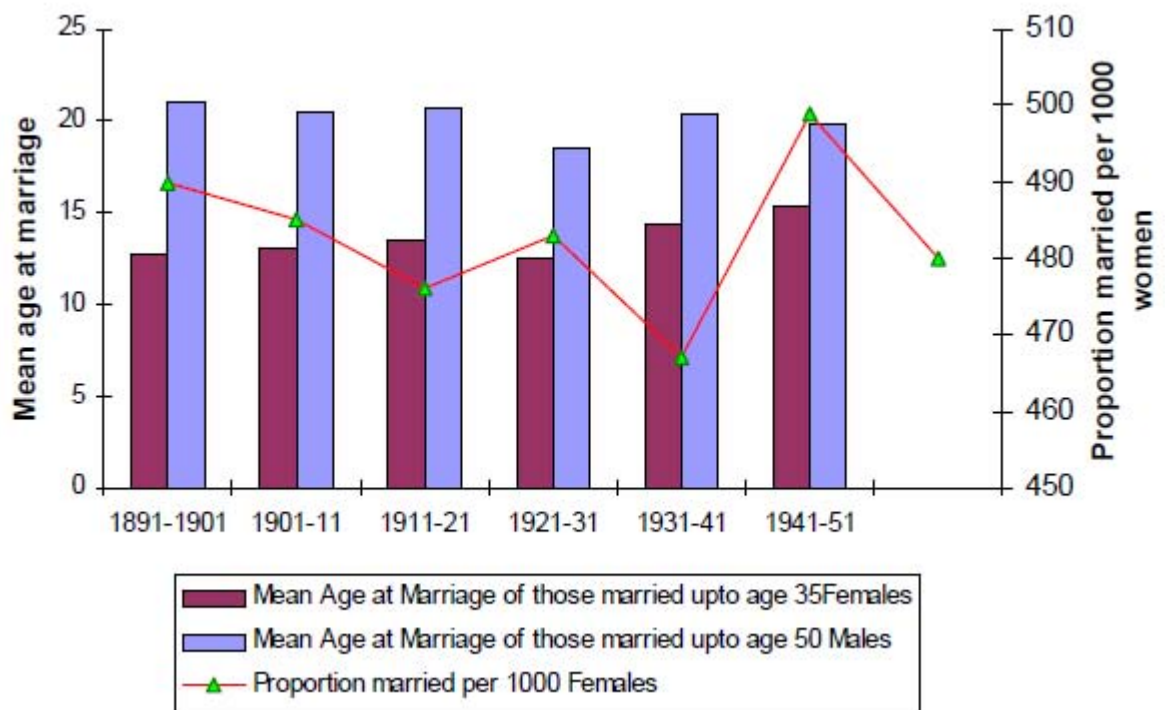


Figure 3 illustrates the mean age at marriage rising marginally from approximately 13 years to 15 years for girls flanked by 1891 and 1951. This marginal transform in the age at marriage at the all-India stage can be safely assumed to have had no great affect on fertility. Likewise, the mean age at marriage showed a little downward trend flanked by 1891 and 1941 with a spike in 1931 that was almost certainly caused through increased marriages to circumvent the Sarda Act. Therefore despite nuptiality showing a little decrease, fertility sustained to augment perhaps due to the augment in natural fertility. Little increases in the age at first marriage for extremely young women do not alter fertility significantly. Widowhood also contributed to keeping the fertility stage much below biological limits. At the all- India stage the close to universal incidence of marriage, absence of contraception and the low age at first marriage contributed to high fertility. Population is regulated through two types of checks – the “preventive” and the “positive”. The preventive check which most operated by delayed marriages and celibacy was of little significance for India since a entire whereas the “positive” check operating by increased mortality and diseases was much more significant.

Mortality separately from periodically lowering population mass also worked in tandem with fertility. Fertility responded to mortality in two methods: First through “replacement” and secondly through “hoarding”. Replacement refers to a procedure through which a live birth replaces a dead child. Hoarding, on the other hand implies having more births than needed in order to attain an expected family mass, given the expectation that few children would die. Therefore, in the course of demographic transform in excess of time, we discover that high and volatile mortality pushed up

fertility often after the era of crisis ended. After mortality began on its course of decline, fertility sustained to remain at pre-mortality transition stages resulting in steep population increases since was witnessed in India till the 1980s.

Age Building of the Population

After that, we approach to the age-building of the population. The age-sharing of a population is primarily determined through fertility and secondarily through mortality. The Indian age pyramid unlike that of advanced industrial countries has a extremely broad foundation and a extremely narrow top suggesting that a big proportion of the population is young. Figures 4a and b clearly illustrate that the age sharing remained extraordinarily stable with a big and virtually consistent proportion of young people. In a closed population since that of India's, the big proportion of children points to high stages of fertility. The age sharing also suggests a high dependency ratio. Further, the youthfulness of the population also ensured a sustained population momentum that would last beyond the onset of fertility decline.

Figure 4a: Summary Age Sharing-Males

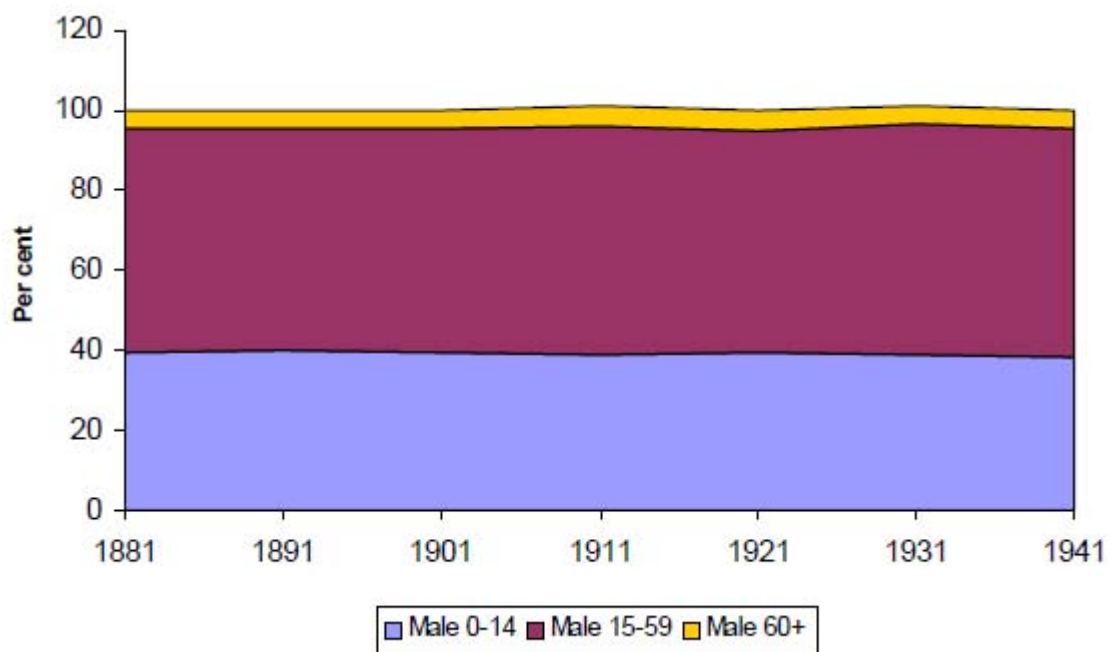
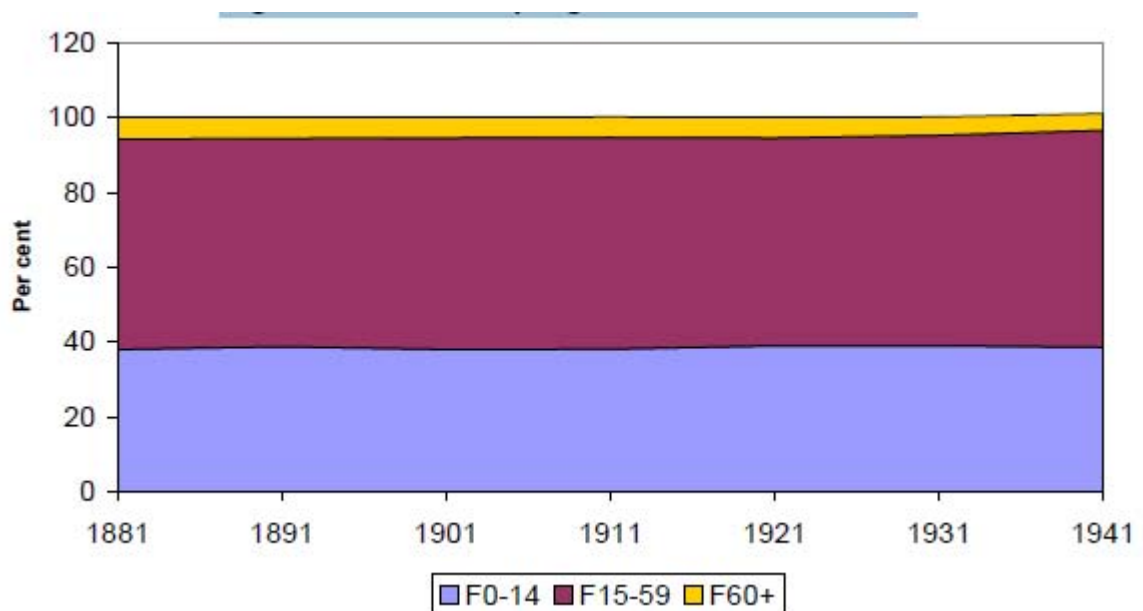


Figure 4b: Summary Age Sharing-Females



Sex Composition of the Population

We now approach to sex-composition of the population. The sex ratio at birth generally falls flanked by 1040 to 1070, internationally. In other languages 104 to 107 male babies are born for every 100 female babies. On the other hand male mortality is also usually higher than female mortality in the older age clusters. Despite this, India has exhibited a continuous decrease in the proportion of women. This is explained through lower life expectancy at birth for females. This all-India trend though does not hold good for several sections of India since we shall see in our discussion of local trends.

Table 1: Sex Ratio, Life Expectation at Birth and Dependency Ratio

	1871-1881	1881-91	1891-1901	1901-11	1911-21	1921-31	1931-41
Sex Ratio	1040	1042	1037	1047	1056	1062	1069
Dependency Ratio	79.1	79.8	77.6	77.4	80.1	76.1	75.1
e0 Males/e0 Females	0.93	0.96	0.98	0.97	0.93	1.01	1.02

In conditions of demographic variables we can conclude with confidence that the population of India grew gradually from 1871 to 1921 mainly because of the mortality check despite high fertility. In the post 1921 years up to the 1980s fertility remained high but mortality declined leading to rapid population development and resulting in a extremely young age population. Women fared badly in conditions of mortality comparative to men during our era. This fairly easy story of colonial

Indian demographic history becomes extremely much more intricate when we revise demographic variables in relation to social organizations and economic transform. Demographic variables such as mortality, morbidity, nuptiality, sex ratios and fertility are not exogenously determined variables. They are predicated on a host of organizations and circumstances that are convinced through context specific patterns of social and economic transform. To revise these linkages we are compelled to seem at smaller and more homogenous areas for otherwise we lose sense specifics at stages of aggregation since big since India.

Local Differences

British India was a making of the colonial state premised on political and administrative thoughts. Stretching from the Himalayas in the north to the tropics in the south, and from the deserts in the west to the deltas of the east, British India was shaped through the differential incorporation of pre-existing peoples, polities and organizations into a new colonial state. Generalizations for a region since varied since India with its several constituent areas and sub-areas conceal a number of local and sub-local particularities. This necessarily compels us to disaggregate the several component areas and zones within colonial India to get a more nuanced picture. Population increased in the pre-mortality transition era at an standard annual development rate of 0.37 per cent for India since a entire.

Table 2: Population Augment, CDR, CBR and Sex Ratio

	1871-1921	1921-1941	1871-1921	1921-1941	1891-1921	1881-1941
	Annual ROG (%)		Average CDR		Average CBR SR	
East Zone	0.52	1.37	46.7	46.65	53.4	1025
West Zone	0.14	1.3	42.1	46.45	54.5	1077
Central Zone*	0.47	1.29	31.3	46.35	53.7	1031
North Zone	0.19	1.25	47	42.95	47.3	1122
South Zone	0.47	0.92	33.65	33.95	41.3	985
All India	0.37	1.22	45.85	43.25	49.4	1050

In the after that era the development rate sharply increased to 1.22 per cent for the country. On disaggregating the country into five geographical zones: East, west, central, north and south, we see that the first era the central and south zones exhibited the highest development rates. Though in the subsequent era, a marked reversal took lay. The south zone now showed the lowest rate of population augment. The fertility and mortality estimates in table 3 should be taken since best since indicative and in no method can they claim any accuracy. What the figures do suggest is that

mortality acted since a biggest check on population augment. South India fared much bigger in the pre 1921 era with relatively high development and a lower stage of mortality. There again looks to be a clear relationship flanked by high mortality and high fertility. In conditions of the sex composition of the population, except for the south zone, and the east zone the country since a entire registered an excess of men in excess of women. Further, since the experience of the south zone points to, areas with a longer history of relatively lower fertility and mortality, seem to have attained fertility transition earlier than those that experienced longer eras of high mortality and fertility.

Demography-Community Interrelations

When confronted through questions such since why did the south zone have more women, or why did mortality augment till 1921 to fall subsequently or why did the age at marriage modify crossways areas, we have to seem to changing social organization and economy for explaining the observed demographic phenomena. While several social scientists initially conceptualized population since an exogenous factor in social transform, demographers have increasingly approach to recognize the secure interrelationship flanked by demographic and social variables. In the Indian case there have been few works on demography that have used data from the past. Though, when resort is made to social buildings of historical vintage, such since kinship systems, female autonomy in explaining fertility outcomes, these determining buildings are seen since static systems. Recognition of historical contingency needs the viewing of these systems or buildings since being subject to transform at dissimilar rates by time. Social scientists attempt to explain a diversity of phenomena in conditions of a dependent variable that can be understood through resort to a set of explanatory variables. In the context of demographic transform, extant research has argued for determinants ranging from cultural practices, to women's participation rates in the labour force to literacy. The problem with this approach is that when it is applied to a data set comprising socially and historically diverse component clusters, the assumption being made is that the similar connection should hold good for each of the constituent clusters. In the procedure contextual specificity is given short shrift.

TRIBAL SOCIETY AND COLONIAL ECONOMY

Defining the Pre-Colonial Tribal Economy

It has often been assumed that tribal people and their civilizations existed in insulated and secluded enclaves before the advent of the British in India. This means that their economies and civilization was relatively untouched through outside markets and so were relatively closed, egalitarian and wealthy societies. These economies were free of use because they had no private property and require rather than the profit motive necessitated their relationships of swap. In one sense the tribal economy was characterised since being quite the opposite of peasant agriculture under the colonial rule where the peasants held individual titles to land, depended mostly on settled farming for their livelihoods and also sold a good section of their produce in the commercial market. But the historical proof from several of the regions illustrate that such a notion of the tribal economy in the anthropological writings of the 1930s was steeped in ecological romanticism.

In pre-colonial central and northern India one of the largest factors that had an impact on both identity and existence was the military clash flanked by ruling elite in both the Maratha and Mughal eras. The chieftain civilizations of dissimilar tribes like the Gonds or the Khakis or Jats also participated in these disagreements. At the similar time the tribals who were peasants and or gatherers in the forests were forced to support their own chieftains and so shaped bands in forests and shaped an significant section of the chieftain's mercenary army. In this context it is significant to keep in mind that the term "tribes" has been used extremely loosely for societies which lived in a "pre-class community". The definition of tribes since "a pre-class community was implied in the job of D.D. Kosambi *An Introduction to the Revise of Indian History* who stated that group and hunting gathering civilizations were characterised through dealings that were determined through birth and marriage and not necessarily economic action. Though Kosambi was also quick to point out that these dealings were open-ended and changed just as the situation. In keeping with this definition several societies that were later called since peasants through Bruisers were termed tribes through the explanations of the medieval era. Chetan Singh's early article on the role of tribal chieftains in Mughal management clearly recognized warrior and ruling classes of indigenous kingdoms since larger tribal linkages. Amongst these were the Jats, the Charkhas, Baluchistan and Afghans. In this vein, the chief characteristic of their community was not only their blood and kinship row of descent but also their rustic and non-sedentary occupational aspects. In a later article Singh is though more categorical in relation to the mention of hunters and gatherers since primitive people. For instance he writes of their references in Abul Fazl's *Akbarnama* where tribal people were called since 'men who go naked livelihood in the wilds, and subsist through their bows and arrows and the game they kill'. He also argues that the medieval texts illustrate that in the case of tribals like the Gonds 'that people of India despise them and regard them outside the pale of their realm and religion'. Such an

identification of tribals since outside the realm of the sedentary farming was contingent upon the growth of a organization of land management which was an significant feature of the Mughal 16 and 17 centuries and British regimes of the 19 century. Before that the British perceptions of tribes were conditioned through their own contingencies. For instance the Anglo-Maratha disagreements of the 18 century led to descriptions of the Gond chieftains since the 'lords of the rugged hills' and their subjects since people who were prone to anarchic activities and 'habitual depredations'. Few of these depredations were called since 'ravages of lawless tribes' who assisted the errant and 'chaotic' rulers. We see same perceptions of the tribes on the northeast frontiers of the British Rule. Script in relation to the eastern Naga tribes in the early 19 century Captain Michelle said that the Nagas accepted on the mainly profitable deal in slaves and suppressed all *ryots* in their neighborhood. The greed of gain caused endless feuds flanked by villages and tribes. Likewise K.S Singh's explanation of the Jharkhand tribes also illustrates the wide ranging changes within the tribal community and economy in the pre-colonial era. There was a spate of migrations and cultural powers in the early medieval era and this resulted in many disagreements flanked by the tribal and non-tribal people in the area. Same trends were also noticed in Orissa where the migrations through caste Hindu societies led to an augment in their clash with tribal people. Though, in both these regions it is also mentioned in studies of pre-colonial tribal polities that the tribals enjoyed a special lay within the superior building of governance.

On the economic front, tribal polities were, open-ended in that they had relationships with the superior political economy. Possibly the mainly striking instance of this is from Jharkhand where *zamindars* tied up with traders from Bengal for sale of lac and silk cocoons, one of the largest forest produces of the time. There were state-owned forests which were the property of the *zamindars* and where the tribals gave free labour in return for their rights to forests. K.S. Singh's explanation of the Chhotanagpur Raj illustrates that the role of the tribal *zamindars* and rajas in ordering and structuring the economy was an significant one. Even while the tribal aristocracy gave the regional residents the rights to exploit the forest for their requires, the commercial appropriation of forestlands sustained and strengthened the hold of the traders in excess of non-timber forest produce.

In *zamindari* and *jagirdari* tracts sub-foundation shaped the foundation of comparative autonomy of manage in excess of forest and land possessions through regional organizations like tribal *panchayats* or headmen. Though there were emerging dealings of dependence flanked by the regional traders and tribal gatherers of forest produce. The value chains that appeared out of Hunter's descriptions illustrate that these were of three types. First, there was the exploit of the non-timber forest produce for household purposes. The jungles of the Chhotanagpur plateau were dominated through the sal, asan, palas, mhowa and amla trees, of which sal was the mainly prominent specie.

The largest produce in mid 19 century was recorded since lac, silk, bee wax, dhaura or sal resin, leaves and roots. Of these flowers, leaves and roots were also used to supplement the diet of marginal and little cultivators. They also proved to be the sole food that people had in times of famine. Separately from this mhowa was used for creation toddy and for ritualistic purposes. Both commercially and culturally significant trees and produce were often owned through the *zamindar* and the mainly prominent amongst these was the mhowa tree. Mhowa flowers were used through tribal people to create their liquor and also in marriage and other ceremonies. The *zamindar* composed rent for collection of mhowa seeds and flowers from these trees even if they stood on the lands of the tribal farmers. In Hazaribagh 2 or 3 little mhowa trees came for a rupee where since in Manbhum one big tree cost the similar amount of rent. The nature of rent in Manbhum depended on the type of trees and ranged from 4 *annas* to 2 or 3 rupees per tree. The saved crop could also modify much in price and fetched from 2 to 8 maunds of mhowa per rupee, but the swap with the mahajans was mostly in type. They generally gave 3-4 *ser* of rice and few salt for one maund of mhowa. The *mahajani* organization was also dominant in the trading of lac and silk cocoons, and the profits in this trading were quite high even however the propagation of their cocoons required a high degree of knowledge and competence. The tussar silk cocoon of Hazaribagh, Manbhum and Lohardaga was reared on the asan tree and its eggs were composed from the jungle and hatched either in the grower's home or in specially erected huts in the jungle. The organization of taxes on the silk propagators differed from area to area. In Manbhum every silk cocoon rarer paid Rs. 2 or 3 to the landlord. It is estimated that the landlord composed 300 pounds a year from such rent and the annual estimated produce was in relation to the 750 maunds from 1000 acres of land. In Lohardaga, the silk growers paid three kinds of taxes. In Hazaribagh on the other hand the silk growers paid 6-8 *annas* to the *zamindar* and the region on which silk was reared was not more than 30 square miles with not more than 5 to 6 asan trees in an acre. This organization of rent ensured that the tribals became dependent of traders for advance payments therefore that they could pay their rents.

In Hazaribagh the middlemen supported the silk growers who were mostly Santhals, Kurmis or Goalas while they were watching the cocoons in the forest. Consequently the growers were obliged to sell their cocoons to these middlemen at abysmally low rates. The value addition to the cocoons was mostly at the stage of little cities and urban municipalities. There was hardly any export of silk cloth from the area and mainly of the weavers sold their cloth in urban regions or in regional *haats* by the *mahajans*. Since in the case of forests, the power of tribal aristocracy in excess of the peasants sustained even in the case of agriculture. For instance in the Ahom kingdoms of Assam the Raja measured plough farming since the path to progress and facilitated the immigration of Tai-Ahoms who used the plough since opposed to the *jhum* farming of the Chutiya and Kachari tribes.

But the building of taxation was dissimilar, instead of monetary taxes the tribals gave slave labour to their rulers. Much of this labour was used to cultivate 'good land' and *kheda* operation for elephant capture.

These tribals did not plough their lands, instead they had urbanized an indigenous bonding technology, and used hoe to cultivate regional coarse rice. But the organization of land administration and farming was such that it required the maintenance of society assets. But not all tribals practiced *jhum* and few like the Jaintia practiced a combination of *jhum* and plough farming depending on whether they existed on marginal regions or not. However there are several examples of such land revenue extraction from Northeast India, the shapes of tribal landholdings varied from one area to the other. An instance of this can be seen in the constitution of agricultural co-operatives and guilds in Cachar where tribals and non-tribals co-operated with each other in manufacture procedures and the land was under the manage of these guilds. The rest of the land, not under these guilds belonged to the king and the state and was given out since land grants to the tribal and non-tribal aristocracy.

In the eastern area of Orissa the situation was slightly dissimilar where the extri-tribal Chieftains and Rajas of regions like Bonai and Keonjhar had brought caste Hindu cultivators to settle on bigger lands. The immigrants were taxed more heavily than the tribal people because tribals were measured the original inhabitants of the area. The situation was same in the territories of the Bhonsale Raja in Nagpur State where the Gonds were not tenants or people with land grants like the Brahmins and other castes. They were people who cultivated land at the pleasure of their chieftain since is reflected in the piece of iron given to him every year. Access to land and forest was therefore, a result of a privilege granted in return for assistance whenever the ruler required it. Serving in the Gond Rajah's army or providing labour since farm or domestic servants were shapes of this assistance. In the neighbouring regions of the Kondmals, the Konds existed in the highlands while the Oriyas existed in the plains. But the Oriya Rajas left the Konds to their own devices and Kond organizations and resource exploit patterns co-lived with Oriya ones.

The thought that it was wealthy and egalitarian is also not true, rather the tribal economies of the pre-colonial period were deeply differentiated and depended on the expropriation of the labour of poor tribals for their labour. This differentiation was a result of waves of immigration and consolidation of fiefdoms from the late ancient and early medieval era onwards. The agro-rustic systems that appeared were subjected to wide-ranging changes where tribal people were continuously marginalised into lands with low productivity. The impact of this procedure was though conditioned through a sure amount of autonomy for regional organizations since well since a mobility flanked by dissimilar eco-zones. These two crucial factors allowed the tribal people survive

the turmoil of the late pre-colonial era. This autonomy and mobility was constrained in the colonial era.

Nature and Patterns of Colonial Power in Tribal India

Given the huge expanse of the Indian subcontinent, the penetration and impact of colonialism variegated in nature. The first region to side British annexation was undivided Bengal and this was followed through Madras, Punjab, Assam and the Central Provinces. Dissimilar land tenures were introduced in these regions, and these tenure systems also had a differential impact on rights to forests and other general lands. For mainly section the British government declared mainly general possessions and lands to be under the exclusive ownership of the state especially with the coming of the Indian Forest Act 1865. Likewise the late 19 century saw the enactment of the Private Forests Acts and Rules in many states where forests place in *zamindari* estates. In these the nature of forest rights granted to tribal people was dissimilar and its implication for the integration of tribal economies into the colonial organization was dissimilar from one where the government had direct manage in excess of land and natural possessions. These variations led to diverse kinds of impacts on and protests from tribal people. They also had a variegated impact on the identity politics of the areas.

Permanent Resolution and the Tribal Economy

Several of the tribals of Eastern and Central India resided in the princely and *zamindari* estates in the era preceding the annexation of these regions through the British. The first permanent resolution of *zaminidaris* in tribal regions was done in 1793 after the annexation of Bengal. Of the permanent resolution regions, Midnapur, Santhal Parganas and Chhotanagpur plateau had the main tribal populations. Separately from this there were the regions of Orissa where a bulk of the *zamindaris* and princely states were settled after annexation in 1803. Mainly of these *zamindaris* were under forests that were slated for land reclamation in the early 19 century after the establishment of the Company Raj. Ranchi, Manbhum and Singhbhum experiencing vigorous expansion in the *zamindari* regions where since Hazaribagh and Palamu had reached a stagnation point. It is significant to note that the only British territories place in the districts of Hazaribagh and Palamu and mainly of the forest and mineral wealth of these areas was in private hands. Two kinds of trends could be noted within the *zamindari* systems of these regions. On the one hand there were the landlord villages where the *zamindar* enjoyed all rights in excess of wastelands and jungles, and

on the other hand there were the *khutkutti* villages, or villages where agricultural lands were held together through the founders of the villages. These founders paid nominal tributes to the *zamindars* and they also enjoyed exclusive rights in excess of jungles and wastelands. There was also another organization of rights in excess of jungles described *Korkar* where ordinary rent paying tenants also had few customary usufruct rights in forests and the exclusive rights to reclaim wastelands. Therefore the forests, on which a biggest portion of the tribal existence was dependent through the early 19 century, were in private hands with 79% of the village commons being under private manage in undivided Bengal. Same trends were also establish in other regions of Permanent Settlements like Orissa. Here 66,000 square miles was permanently settled and 5000 square miles was directly under British manage.

Here tribals were mainly concentrated in the States of Jeypore, Bonai, and Keonjhar. Few of the only biggest tribal regions under British manage were the Kondmals and Sambalpur after the 1830s. But unlike Jharkhand mainly of these regions were under a single Oriya or tribal Raja who did not follow a organization of sub-foundation. Rather they gave land grants to a number of Kshatriya and Brahmin people and the tribals were mostly landless labors in these princely states. With the coming of the British these states were reduced to status of *zamindaris* that owed a tribute or had to pay rent to the British. The resolution processes were prescribed through the Bruisers and created a land market in the tribal *zamindaris*. There was therefore the emergence of a rich peasant class of Bengalis who exploited the tribal people for labour. Same patterns were also establish in the tribal *zamindaris* and princely states of Bastar, Central Provinces and Western India.

Land settlements were only one mode of resource manage in tribal *zamindaris*, the second was administration of forests and non-arable land. Tribal *zamindaris* were mostly located on foothills or highlands of thickly forested regions. While it is true that a big portion of this region was demarcated for farming before the mid-19 century, mainly of the jungles were privately controlled in mainly of these areas. This meant that even while the British government prescribed the rules through which forests were to be worked, the primary benefit from these forests accrued to the *zamindars*. In few cases the value of these forests was quite high and the produce such since honey, silk, lac, and timber had the potential of yielding good revenue. The use and deal in forest possessions increased rapidly especially after the coming of the Railways. In Chhotanagpur for instance Hunter records that deal of sal timber was controlled through the regional *mahajans* who sold them to the forest department for a big profit. Officials often noted that the Government derived virtually no benefit from the forest sector, the biggest portion of which was appropriated through the *mahajan* who only paid a little royalty to the *zamindar* for the exploit of his land.

But it was in the case of non-timber forest produce that the tribals were mainly exploited. In Manbhum middlemen paid Santhals, Bhumijis, Kharias, Paharias and other lower caste people advances to rear cocoons. These cocoons were sold at the price of 213 cocoons to a rupee and were then exported to Bengal. In 1871 the silk exports were estimated at 10,000 pounds. In Lohardaga district the cocoons were sold to the traders for Rs. 5 to 7 per maund and exported to Mirzapur, Benaras, and Patna. In Hazaribagh the middlemen support the silk growers who are mostly Santhals, Kurmis or Goalas while they were watching the cocoons in the forest. Consequently the growers were obliged to sell their cocoons to these middlemen at the rate of Rs. 5 or 6 for 1680 cocoons. The *banias* in turn sold these cocoons to the *mahajans* for Rs 5 for 1330 cocoons.

Then these cocoons were exported to Burdwan or Gaya at the price of Rs. 15 per 1000, if the cocoons were sold to the Tanti *banias* then the rate was Rs. 5 for 80 cocoons. The Tanti *banias* are simply weavers who take out the thread from the cocoons and weave them into little pieces of silk that they sold to the *mahajans* at Rs. 8 and 8 *annas*. The value addition to the cocoons was mostly at the stage of little cities and urban municipalities. There was hardly any export of silk cloth from the area and mainly of the weavers sold their cloth in urban regions or in regional *haats* by the *mahajans*. In the case of lac the organization was a small dissimilar since the lac was not only composed from Jharkhand but also brought from the Central Provinces to Ranchi through the *mahajans*. It was then processed in the Ranchi Lac Factory before stick lac was exported out of the area. But whatever the differences in the organization of swap and value chains, the *mahajani* organization engaged a central location in the tribal regions of colonial Bihar and Orissa. Further it was not only confined to the non-timber forest produce deal, but was also apparent in agriculture and other spheres of life. The sharp contradictions and differentiation flanked by the regional tribals and outsiders underlined the class contradictions in the permanent resolution areas. This clash took the shape of several uprisings that have also been well documented in the past through many scholars. Separately from the rising impoverishment of tribal people there was one other characteristic of the colonial *zamindari* economy vis-à-vis its connection with the Empire. The British often used the forests since a location of exercising their domination and manage. In forestry too, efforts were made to acquire private forests and enact a Private Forest Bill but these efforts failed quite badly. At best the *zamindari* forests could be administered under Part 38 of the Indian Forest Act. In Central Provinces too, Rules were framed for controlling private forests and Forest mahals were constituted for doing this.

All private forests were to ban shifting farming and carry out felling in accordance with the Indian Forest Act. In Bengal too, the 1890s saw the direct manage of the forest tracts in the permanent resolution regions where the British forest department started working the forests instead

of giving them on contract. The procedure of reservation to be followed was the similar since that of government forest tracts and shifting farming was to be banned. Through the turn of the century, the British Forest Department had also imposed its writ in excess of princely states like Bastar. These events cut off the only source of existence for the poor tribal people, several of whom had migrated from government forests into the zamindari regions because the zamindars allowed them to do shifting farming. Therefore through the 20 century the variation flanked by Government owned lands and the permanent resolution regions declined substantially and the impact of this on tribal life and existence was disastrous.

Tribal Economies in State Owned Agricultural and Forest Lands

Possibly there is no bigger instance than the Central Provinces for describing the sorts of changes that affected the tribal regions on agricultural and forest lands that were directly controlled through the British Government. The annexation of the State of Nagpur in 1854 saw direct intervention in the agrarian organization through the colonial regime. This meant that the principals behind both settlements and forest rights were guided through concerns of revenue maximisation and administrative convenience. The debate on the resolution question in the 1830s reviewed the permanent resolution experience of Bengal and Orissa and decided that Munro's *ryotwari* settlements were more suitable. The thirty-year resolution was therefore seen since a good substitute for Permanent Resolution. It would induce a feeling of security amongst proprietors without giving them a permanent manage in excess of their holdings. Therefore individual land rights were given to cultivators whose revenue was assessed every 3 years therefore that the government would be able to get the maximum revenue for itself. The rights of regional households in excess of grazing and forests lands were also defined through the land settlements that initially based themselves on Maratha land records. This naturally meant that mainly tribal people with the exception of Gonds hardly got any land or forest rights as their rights were never recorded in the late pre-colonial times. Coupled with this, the state declared itself the owner of all forests under the Indian Forest Act 1865 and made a stringent classification of forestlands under the Indian Forest Act 1878.

In this context there were broadly three procedures of colonial expansion that impacted on the tribal people. The first was the procedure of reclamation of lands for farming that led to severe land alienation amongst the tribal people of the Central Provinces and Kondmals of Orissa. Though patterns differed in both these regions. In the Central Provinces tribal people were pushed into more and more marginal lands. This had a direct impact on the status of the aboriginal tenants in the districts like Chanda, Mandla and Bhandara where 80% of the Gond tenants were classed since

peasants with few shape of debt or the other. One third was categorized since extremely poor where since only 20 per cent of the Gond peasants were free from debts. The Baigas had no land at all and faced indebtedness and hunger. The settlements of the 1920s had shown that the standard mass of tribal holdings was declining more and more. This made the tribals more and more dependent on labour, since they could not pursue any other jobs because they were 'educationally and politically backward'. Through the first quarter of the 20 century the government was forced to enact the Central Provinces Tenancy Act to prevent the alienation of tribal lands. In the Kondmals the situation was dissimilar since shortages in land led to migration of Konds in order to search for labour to meet their daily requires. Several of them went of to job in mines, tea gardens and other spaces.

The second biggest factor influencing the patterns of tribal living was the complete ban on shifting farming in government forests. It is well recognized that the poorest tribal people depended on dissimilar shapes of shifting farming for a big section of their nutritional requires. But with the government take in excess of forests and the ban in excess of this shape of farming the tribals were once again forced to depend on labour for their living. In few regions like the Central Provinces, they migrated to *zamindari* regions where they were allowed to practice this farming shape till the late 19 century. Though it is significant to keep in mind that this ban was dictated through the strategic requires of the colonial Empire. Therefore in Assam the shifting cultivators in the border regions were not disturbed. Though in the inland region there were tribals who provided significant labour opportunities to the forest department, the *taungya* organization was introduced where tribals were allowed to practice *jhum* in a limited method. But this customized the *jhum* cycle irreparably and led to the further pauperization of tribal people. At a dissimilar stage the labour shortages due to migration also led to the colonists giving few limited rights for shifting farming in Central India.

The third biggest procedure affecting tribal economies was the penetration of industrial capitalism in forested regions. Here the focus was not only on felling of timber but more importantly on the non-timber forest produce which shaped an significant supplementary section of tribal income. The rise in the world demand for minor forest produce led to the influx of European capital into forested regions and changed the extremely nature of manufacture dealings. The case studies of lac and tan illustrate that the supply of raw materials to the artisans got curtailed because tribals started selling forest produce to the foreign firms. This was especially the case in the case of lac and dyes in Central India. The collection of lac seals and flowers for dyeing was an significant seasonal job where tribals had recognized links with artisans. The interference of the managing agencies in these sectors not only weakened this link but also facilitated the incorporation of regional manufacture procedures in a colonial division of labour. Scientific experiments were accepted out to either test the social and technological validity of regional knowledge and techniques or to justify the

colonial power of markets. This was accompanied through the lack of initiative to invest in the upgradation of regional techniques. The incorporation of regional ways of extraction of minor forest produce was conditioned through the logic of colonial industrial capitalism. Tribal and artisan societies were now providing cheap labour and raw materials to the European industry. The procedure of channeling this labour was systematized by the making of forest villages in the late 19 century. These growths laid the foundation for the underdevelopment of the productive forces in the tribal economies.

The Colonial Impact and Tribal Response

Through the 1940s it was sufficiently clear that tribals in mainly sections of the country had lost their access and manage in excess of all productive possessions and village-based infrastructure that could support their subsistence. The rising landlessness of tribal people coupled with their lack of access to forest possessions led to the complete breakdown of the tribal manufacture organization and the incorporation of the tribal economy into the superior colonial and capitalist economy. This incorporation was most in conditions of dissimilar shapes of labour that naturally included the regional knowledge and techniques in harnessing both land and forest possessions. The second biggest impact of the colonial interventions was on identity formation and the nature of tribal polity.

From Producers to Labourers

The changing shapes of labour employment and the swelling of the tribal labour force was something that was general to both permanent reservation and government owned regions. Though the shapes of labour varied from area to area. In the *zamindari* regions of Chhotanagpur, Santhal Parganas, Eastern Uttar Pradesh and Orissa migration became a method of life. The loss of land coupled with the lack of income or use induced migration to mining regions since well since tea gardens in Assam. In upper Assam, labour was procured by an indentured organization for the tea gardens whereby labour was recruited from Chotanagpur, Santhal Parganas, Bihar and eastern United Provinces often through deceptive and coercive ways involving contractors. Where accessible without the organization, it was later drawn into the higher-paying petroleum and coal operations.

In other regions where such migration did not exist, tribals worked in the forest department and on the meadows of caste-Hindu peasants. Though the seasonal nature of on farm labour ensured that mainly of the tribals were forced to job primarily for the forest department in order to earn their living. For instance in the Central Provinces the formation of forest villages in the late 19 century

were aimed at providing a continuous flow of labour to the forest department. The first forest village regulations were issued in 1890. Under these laws forest villages could be recognized within the limits of any 'reserved' forest with the prior consent of the Conservator. The District Commissioner and the Divisional Forest Administrator would decide their site. Forest villages were to be intended solely for the permanent supply of labour and were not to be made with the intention of extension of farming. Lastly forest villages were to be made up of those societies that were 'habituated to the extraction of forest produce'. In regions where there were managing agencies for the extraction of non-timber forest produce the tribals were employed since labourers to produce lac and silk through cheap and efficient ways. In mainly cases regional techniques for such propagation were integrated into these colonial systems of extraction.

Same procedures were also seen in Assam where the *taungya* organization was in force. Under this organization, the tribals were forced to plant seedlings of teak on forest lands where *jhum* was done previously. The tribals would be allowed to sow their *jhum* crops flanked by the lines of trees in order to meet their food requires. Tribals were employed in other labour operations. Reserves and experimental plantations needed long labour for clearing, sawing, transportation, weeding, fire defense and regeneration. This was partly supplied through seasonal immigration of the tribals who came down in winter flanked by the months of December and March, a relatively slack era for *jhum* or shifting farming. In Assam, sawyers came from either the Surma valley or from Nepal in the arid season. The supply of the latter was stalled throughout the second world war with an augment in military recruitment of 'Gorkhas' and a diversion of sawyers to other sections of the country. Much of this job would be *begar* or forced labour.

The circumstances of job of tribal people, especially on forestlands were inhuman. In an enquiry into the condition of forest labourers in Central Provinces Wylie, the Governor of Bombay, questioned the level of wages paid to labour for felling and carting and demanded an early statement on the subject. He also spoke of the problem of piece-job when he said that tribals were made to labour on roads till they were physically in a mainly unsatisfactory form. Therefore he concluded that the circumstances under which they worked affected their health adversely. Lastly, the Baigas were exploited through the forest department, since the department extracted 'illegal and forced labour' throughout harvest and sowing time. The forest department made the labourers job more than 8 hours a day without paying them extra money. The department forcefully extracted supplies for visiting forest officials in the forest reserves. The situation in Assam was same where Garos were forced to perform *begar* in road structure and live in forest villages. Therefore we discover that approximately during the country tribals were converted from producers to providers of cheap labour and raw materials since a result of colonial interventions.

Manners of Protest and Identity Formation

It is not since if the tribal people of the country were mute spectators to colonial interventions. The earliest tribal revolts can be traced to mid 19 century with the Kol rebellion. Thereafter the *zamindari* regions of Chhotanagpur faced many other rebellions prominent amongst which was Birsa Munda's rebellion against the *dikus* or outsiders in the area. In response to this movement the British were forced to enact the Chhotanagpur Tenancy Act in 1885. Many princely states also saw tribal movements in response to adverse changes in land and forest administration. Prominent amongst these was the Maria rebellion in Bastar in 1876 and 1910 which was meant to be against police repression and forest laws. Here too, the slogan was 'Bastar for Bastaris' against outsiders. In all these cases there was a perception that the Rajas had begun to deprive the tribal people of their customary rights especially after the advent of the British. It is because of this that tribal elites led the revolts against the Rajas.

These revolts had a tenuous connection with the Congress nationalists and often flouted the norms and values espoused through the dominant tribal elite. One such revolt was the Forest Satyagraha of the 1930s in the Central Provinces where the Gonds flouted the forest laws in more than a symbolic method. They also turned violent and therefore the Congress leadership was forced to disown the movement. Another movement with tenuous connection with Congress Nationalism was the Tana Bhagat Movement of the Oraons in the 1930s that played an significant section in altering the tribal identity in the Chhotanagpur area. The movement not only impacted upon the procedure of identity formation of the Oraons but also led to a procedure of superior differentiation amongst tribals in the Chhotanagpur agrarian community. Such assertion of tribal identity, religion and symbolism sometimes led to movements for distinct states from the late 1930s onwards. Tribal leaderships argued that they would not ensure the balanced growth of their region if tribal regions were not given the status of distinct tribal states. Prominent amongst these movements was the one led through the Adibasi Sabha for a distinct Santhal State since well since the movements for independence in Nagaland and few other sections of the Northeast.

Whereas these organised tribal movements reflected procedures of underdevelopment and unequal swap, areas with no organised tribal movements also faced another shape of resistance. For instance the Baiga of the Central Provinces started migrating from state owned regions to *zamindari* regions once their shifting farming was banned. They therefore forced the government to shape the Baiga Chak in which the government conceded to them few living rights. Though this was only possible because the Baigas presented themselves since shifting cultivators with ancient rights and traditions that did not allow them to plough land. In reality such a representation was in information

presently a method of negotiating with the British Government. The Garos refused to put in the requisite number of days, generally since a section of the resolution, in lieu of 'privileges and concessions' in the forests, after being issued a permit. In 1899, few *raiya*s of Goalpara refused to render labour in protest against forced labour. Such shapes of every-day protests led to the crystallization and assertion of tribal identities in a plurality of methods. But whether organised, or unorganized, the tribal movements and shapes of protest had one thing in general: they reflected the rising unequal swap flanked by the tribal economies and the wider local and national political economy, and the consequent underdevelopments of these areas. It is this factor that made colonial interventions 'a watershed' in the life and growth of tribal people.

THE QUESTION OF AGRARIAN GROWTH AND STAGNATION

Agricultural Manufacture in Colonial India: A Framework for Analysis

The question of agricultural development lies at the heart of the debate in relation to the impact of colonialism in India. The issue of rising poverty, low rates of industrialization and the destruction of handicrafts and traditional industry – the staple of the nationalist critique of colonialism hinged on the issue of agricultural development. Did agricultural output grow fast sufficient under colonial rule to mitigate the consequences of population development? Or in other languages did food supply outstrip population development throughout the colonial era? Then there is the question of commercialisation of agriculture. The colonial character of the economy was apparent in the transformation of India from a production exporting economy to an agricultural raw material exporting one. Did rising manufacture of cash crops for exports occur at the expense of food granules? Given that more than half the national income is estimated to have originated from agriculture and also because of the overwhelmingly agricultural character of the workforce in India during the colonial era the centrality of agricultural output and its stage and trend in excess of time is crucial for understanding how the bulk of the Indian population fared under colonial rule. Separately from temporal changes in agricultural output, differences in excess of legroom i.e. local performance of agriculture is a significant issue. Did few areas grow while others stagnated or declined? If there were significant local patterns discernible – what explains these differences? Nationalist critiques of colonial rule and its impact on the average of livelihood of the people of India appeared in the transitional of the 19 century. Dadabhai Naoroji's *Poverty of India and Un-British Rule* highlighted the utter poverty of Indian people through calculating the per- capita income in 1868-69 at Rs. 20. William Digby's provocative book 'Wealthy British India' castigated colonial rule for progressive impoverishment of the Indian population. While Naoroji's estimation of agricultural manufacture

was a single point estimate, Digby used three point estimates of agricultural manufacture and national income. These estimations of poverty and low agricultural manufacture gained credence due to the devastating series of famines of the late 19 century. There were many rebuttals of nationalist claims indicating low agricultural manufacture and rising impoverishment of population through the British Officials, the mainly notable being Lord Curzon's rebuttal of R. C. Dutt since also F.T Atkinson's systematic critique of Digby. The trend and stage of agricultural manufacture has been the subject of intense debate as the late 19 century and has animated Indian historiography on the subject. The nationalist school of historiography takes a considerably pessimist location, arguing that during the colonial era agrarian manufacture was stymied: in the 19 century it barely kept pace with population augment while in the twentieth century, definitely lagged behind rising population. The nationalists blamed Colonial State policy of non –growth, free deal, land revenue organization, forced nature of commercialisation for the poor performance of agricultural manufacture and saw the devastating series of famines in the late 19 century and early twentieth century since a direct consequence of such policies. A revisionist view, mainly notably represented in the job of M.D. Morris and A.Heston, asserted that there was substantial expansion in agricultural output during the 19th and the first half of the twentieth century, stronger in case of commercial crops and relatively slower for food granules, reflected in the slow but positive development in the per capita national income. In the revisionist explanations colonial state policies were assessed positively. More recently, there has been a revival of the revisionist location especially in the job of Tirthankar Roy, which has shifted attention absent from the colonial state policy to focus on the procedure of commercialisation of agriculture. Rising integration of Indian economy with the global market in the era 1860 – 1920s and the spur given through exports to commercialisation led to growing per capita income and sharp development in manufacture and productivity in agriculture. Cash crop manufacture led development was fuelled through productivity development and growing income by out the era. This era of relatively open economy and development was disrupted through the great depression of the 1930s. The 'malign' state of the nationalists is replaced through benign market in the neo revisionist explanation since the driver of agricultural development.

As the debate in excess of agricultural output development and its several components has critically hinged on interpretation of agricultural statistics of manufacture and productivity, it is useful to analyze the sources and coverage of such statistics. Agricultural statistics became accessible at the all India stage following the recommendation of the Indian Famine Commission. Stray statistics especially of commercial crops were accessible from the 1860s throughout the cotton boom. Comprehensive, however imperfect, statistics became accessible from the end of 1880s. The largest source of the agricultural statistics at the All India stage were the *Season and Crop Statements*

published through the Provincial Directorate of Agriculture which provided district stage statistics of cropped region, region under individual crops and estimates of output of each crop. Precious information on harvest prices of crops and rainfall data was also published in these statements. The information therefore generated was collated into two annual publications at the All India stage – *Agricultural Statistics and Estimates of Region and Yields of Principal Crops in India*. The former provided data only on region under farming while the latter gave figures of region and output of eighteen crop forecasts, which engaged more than 95 per cent of total cropped region of the country. The Season and Crop Statements, which shaped the foundation of the agricultural statistics, was issued most for British Indian provinces while the national stage statistics also incorporated figures for few Princely States.

The *Season and Crop Statement* estimated the total output for each of the district through a easy formula $Y = A \times SY \times CF$, where Y = Total output, A = Region under the crop, SY = Average or Normal Yield, CF = Seasonal Condition Factor. The Average Yield was defined since a ‘figure which in existing conditions might be expected to be attained in the year if the rainfall and the season were of a character ordinary for the tract under consideration, that is, neither extremely favourable nor the reverse...the standard yield on an standard soil in an standard year’ Average yield was generally derived through a series of crop cutting experiments of yields in the district and was subject to periodic revision. Yet since is apparent from the official definition with its emphasis on ‘averageness’, statistical accuracy or randomness of example was hardly the criterion for choosing a scrupulous figure. Seasonal condition factor on the other hand, was a purely subjective estimation of the condition of the crop generally denoted in annas which was then converted into a percentage of the normal or average yield. Therefore an 8 anna crop acquiesced a SCF of 50 per cent. The agency which was charged with reporting the condition factor since well since acreage under scrupulous crop in a village in temporarily settled region was the village *patwari*. His estimation was then subsequently corrected through a series of supervising administrators and finally through the Director of Agriculture at the provincial stage. In the Permanently settled regions it was the village chowkidar who was the primary reporting agency. Acreage figures in temporary revenue resolution regions were drawn with reference to the village records, but in the permanently settled regions, as the village records for revenue purposes were non existent, the acreage figures were more of an ‘eye estimation’ successively corrected through the district stage administrators. Acreage figures were therefore notoriously deficient for the permanently settled provinces such since Bengal, Bihar and Orissa except for in districts where cadastral surveys and resolution operation had been accepted out.

Agricultural Manufacture: 1890-1947

George Blyn's monumental job on the agricultural manufacture in British India accepted out in the late 1940s and published in 1966 remains to date the mainly significant explanation of the trends in crop manufacture in India. Blyn utilised the Official series published in the *Estimates* and corrected it for discrepancies due to non reporting of crop figures for some years in few Provinces. He produced three series that of output, acreage and yield of eighteen principal crops, eight food grain crops and ten non food grain crops for the years 1891/92- 1946/47. For aggregation of dissimilar crops the output and series was converted into value conditions at consistent prices of each individual crop based on standard prices of the era 1924-29.

Debates in Excess of Agricultural Statistics

While Blyn's job on the agricultural manufacture remains the single mainly comprehensive explanation of All India agricultural performance, many efforts have been made to improve upon it at the local stage. We require to believe few of these to reflect on the debate in excess of agricultural stagnation and development. Blyn's agricultural manufacture statistics was the foundation for significant estimations of national income through S.Sivsubrahmaniam for the era 1900-1947 and enjoyed a great trade of reputation in the radical nationalist historiography of the 1970s and early 1980s. Though doubts were soon raised in relation to the Blyn's manufacture estimates and the veracity of the official yield figures on which they were based. M.D Morris, an early dissenter, doubted whether the picture of decline food grain yield per acre could be continued for the entire era. Citing an early study through Walter C. Neale, Morris argued that wheat yields in the districts of Muzaffarnagar and Bareilly increased through 900 percent flanked by 1840-1940. Alan Heston provided the first systematic critique of the Blyn's manufacture series through casting doubt in excess of the official statistics especially on the Average Yield and Seasonal Condition Factor components of the Manufacture series. Clive Dewey debunked the official statistics because of the arbitrariness and unreliable ways used through those who composed the statistics, the patwaris and the Kanungos. Local revisions were attempted through M.M Islam for Bengal and Carl Pray for Punjab. Islam revised the acreage and manufacture figures of the 1920s and Pray argued that the official statistics were serious underestimates as they neglected the role of improvements in technology. The debate in excess of the comparative merits of Blyn's agricultural manufacture series has been ably summarized in Sumit Guha.

Those who have criticised Blyn's figures have focused most on two components of the three that went into the creation of the manufacture series namely the Average Yield and Seasonal Condition Factor. Heston's largest criticism was that the official yield figures were subjectively estimated and were marked through an administrative bias. This bias was mainly due to the proverbial "patwari pessimism" or the tendency on the part of the primary reporting agency to underestimate good years and overestimate bad years which led to systematic reduction of the seasonal condition factor. A second point of criticism was in relation to the Average Yield figures. It was argued that the average yield figures were based on insufficient crop cutting experiments and were marked through big sampling errors, and changes in these figures did not reflect underlying yield trends. Heston demonstrated by a detailed analysis of the Bombay official yield figures that there was a declining trend in excess of time which was unsupported through total rainfall trend throughout the era 1907-1947. He suggested that the administrative bias was reinforced through a political bias towards remission of revenue. Secondly, Heston felt that average yield figures were initially extremely high because European yields were projected on to India and when more realistic figures came to be adopted, there was a decline in Average Yield figures in excess of time. For Heston Blyn's downward trend in food grain crop yield was a statistical illusion. As official yield figures were spurious, Heston accentuated that the picture of declining yield for food crops should be abandoned in favour of a consistent yield for the entire era. He proposed that the yield figures of 1951-54 for all food crops based on long crop cutting ways should be applied to the acreage figures to generate a revised output series. For crops like cotton, sugarcane and tea, which showed a continuous augment in yield in the official series, he advocated the maintenance of official, yield figures.

How bad were the official yield figures in reality? It is motivating to note that for sure years in which both official yield and long crop cutting yields were published, R.C Desai who did a long revise of crop trends in 1937-1948 establish that the official yields were underestimated vis-à-vis Crop cutting yields through a extremely narrow periphery - 3.5 percent for rice and 1.5 percent for wheat. R.C Desai V.G Panse and P.V Sukhatme who were the pioneers of crop cutting way for yield estimations usually supported the Patwari estimations. Secondly, Heston's objections against declining condition factor in the official series due to administrative and political bias has been establish to be untenable through Ashok Desai, Aswini Saith and Sumit Guha. The biggest point than had to be measured was whether the trend of declining official yield reflected underlying movements in real yield. And here Heston's alternative of consistent yield for the entire era 1868-1947 for biggest crops has been establish wanting in several compliments. Ashwini Saith's cautious examination of United Provinces' wheat yield for the era 1840-1946 in Muzaffarnagar and Bareilly

districts showed that contrary to an optimistic assessment of growing yield, there was a extensive term tendency for “intrinsic yield “ to decline. This decline was partly offset for a short era due to what Saith calls a “shift effect” i.e., shift of wheat from unrelated to irrigated land. But once the shift effect had played out its role either with slowing down of expansion of canal irrigation or due to rising alkalinity due to water logging, the extensive-term trend of decline in intrinsic yield resumed its course. If there is, since Saith illustrates, a extensive term tendency for decline of ‘intrinsic yield’ then Blyn’s figures are not implausible and the alternative of consistent yield proposed through Heston is untenable. We are then left with Blyn’s series of agricultural manufacture for the era of 1890-1947 since the best and possibly the mainly plausible estimation of trend in the key characteristics of agrarian manufacture in British India.

Blyn’s portrayal of the overall picture of low development and stagnation strengthens the nationalist argument in relation to the baneful impact of colonial rule while the revisionists could take few consolation from the positive development trend in the cash crop manufacture. Yet Blyn’s statistics only seemed to deepen few of the paradoxes of agrarian development. First: how did Indian population grow therefore rapidly on the foundation a stagnant food grain manufacture? Second: how do we square the information of rapid agricultural development in the late 19 century with proof of recurring famines and scarcities ? The answers depend seemingly on the relation flanked by population development and agrarian manufacture. Were the trends in these two variables self-governing of each other or was there a causal relation flanked by them? If we accept Blyn’s picture we still are left with a vast gap in relation to the trends for mainly of the 19 the century. Were the trends of 1890-1920 a continuation of longer term trends of development from the 19 century or was there only a brief era of development within a superior cycle of stagnation and decline initiated in the 19th century ?

The 19th Century Trends

What can we say in relation to the longer term 19 century trend since a entire? It may be noted here that Heston’s revised output estimates effectively lowers the estimates of the earlier eras and therefore instead of a declining trend we are presented a growing trend of output, yield and per capita food grain manufacture, specially for the later half of the 19 century. The 19 century trends, in the absence of any series, are at best speculative. Heston’s backward extrapolations of the mid 20 century yields are highly improbable. Sumit Guha, on the foundation of scattered proof, a mix of reliable and highly speculative figures spread crossways many areas, has estimated that total cultivated region might have increased through 33 percent flanked by 1825-1890. Throughout the

similar era the best estimates of population development range flanked by 26 percent and 87 percent. Only with the lowest estimate of population development can the acreage development stay ahead of population.. Throughout the similar era he estimates, on the foundation of all accessible crop cutting experiments in the District Resolution statements of North India and South India, a tendency for the yields to decline, however in many areas such since Punjab and united provinces irrigation might have countered this decline to an extent. Combining the trends in acreage, yields and population, Guha estimates a fairly slow development in output and a decline in per capita output flanked by 1825 -1890.

REVIEW QUESTIONS

- Discuss the reasons behind the introduction of the Permanent Settlement. What were its socio-economic impacts?
- To what extent did British agrarian policy deepen the differentiation within the rural society?
- What is commercialisation? Do you agree that Indian commercialisation began with British imperialism?
- ‘Early colonial policy was governed by commercial rather than conservation needs.’ Comment.
- What were the limitations of the data in colonial censuses?
- To what extent famines affected the population growth in the colonial period?
- What was the nature and pattern of tribal economy in the pre-colonial period?
- Explain the reasons for the inter temporal variations in agricultural production from the late 19th to mid-20th century in British India.

CHAPTER 6

Craft Production, Technological Change and Industrialization

STRUCTURE

- Learning objectives
- The de-industrialization debate
- Crafts industries and small scale production
- Patterns of industrialization
- Technology, science and empire
- From planned economy to globalization
- The political economy of liberalisation
- Review questions

LEARNING OBJECTIVES

After reading this chapter you will be able to learn about:

- Analyze the impact of Lancashire imports on the Indian textile industry.
- Discuss the changes that took place in the Indian small scale industries during the late 18th and early 19th centuries.
- Understand the nature of industrialization during 1900-1946.
- To what extent did colonial policies influence the development of science and technology in India.
- Discuss the problems that the planners faced immediately after Indian independence.
- Analyze the contradictions that paralyzed the interventionist regime set up in the 1950s.

THE DE-INDUSTRIALIZATION DEBATE

Early Nationalist Views and their Critics

K.S.Shelvankar in *The Problem of India* and R.P. Dutt in *India Today* described the half century after 1875 the era of deindustrialization and peasantization. Therefore did Colin Clark in *Circumstances of Economic Progress*. Although the classic nationalist explanation of the impact of colonial rule in India through R.C.Dutt, *The Economic History of India in the Victorian Age, 1837-1900*, emerged extremely early in the twentieth century it dealt with the adverse consequences of British manufactured goods for India's hand manufactures. Though, authors like L.C. A. Knowles

and Vera Anstey contested the nationalist argument even in the colonial era itself. A substantial critique of the nationalist argument came from an analysis of the data on jobs from the decennial Censuses from 1881 to 1931. Later, in the 1950s, Daniel and Alice Thorner argued that a case for the decline of employment in the secondary sector throughout the era sheltered through the census data was not tenable. Essentially Thorner's argument was that there was not much transform in the proportion of the population that was occupied in industrial jobs at least in the era sheltered through the census data, from 1881 to 1931. The case for de-industrialization in India arose from an erroneous reading of the proof contained in the Census data. In an agricultural economy the classification of jobs is not a simple task because of the absence of clear-cut separation of job within the household. Besides the foundation of classifying the population into dissimilar jobs it changed from the early to the late Census statements.

The biggest source of the problem was the in excess of-estimation of the number and proportion of the population occupied in industrial jobs in the Census of 1881 on the foundation of a misreading of the categories used in that statement. Thorner argued that it would be more suitable to believe the Census categories of 'Production and Deal' in one group, of 'Agriculture and Common Labour' in another group, and to distinct the data for male and female workers. The proportion of males in 'Production -cum-Deal' to the total of all working males fell from 18% to 15% flanked by 1881 and 1931. If the detailed data for all Provinces and four States are used to estimate the percentage for 1881 it is 16%. This reduces the extent of decline from 3% to presently 1% in excess of the 1881- 1931 era. The proportion of males in 'Agriculture-cum-Common Labour' changed through barely two percent flanked by 1881 and 1931. The proportion was 74% in 1881 and 1901, 75% in 1911 and 76% in 1921 and 1931. In Thorner's view the entire case for de-industrialization rested on the "relatively dubious figures for the females but on acceptance of the meretricious 1881 data." Excluding the 1881 data so Thorner estimated that the proportion of women in 'Production-cum Deal' declined from 17% in 1901 to 14% in 1931. Throughout the similar time era the proportion of women in 'Agriculturecum Common Labour' rose from 77% to 78%. So he concludes that deindustrialization on any significant level could only have happened in the era flanked by 1815 and 1880. Though, Thorner was intrigued through the information that the industrial building of the economy remained "practically stationary throughout a half century when India's population rose through almost one hundred million."

The 1968 Debate on De-Industrialization

In an essay criticizing the lack of theoretical rigor in the writings of the nationalists Morris David Morris argued that the case for the decline of the traditional industries of India rested on the proof for the growing imports of British manufactured goods into the country. Morris there was not much direct proof of the decline of India's traditional industries and the nationalists had ignored the possibility of a rightward shift in the demand curve for cloth in India. If we assume that there was an expansion in the domestic market for textiles in India because of the augment in the population of the country and the augment in the purchasing domination of the people based on an augment in the per capita income then despite an augment in imports of manufactured goods into the country there would be small or no decline in traditional artisanal manufacture. The argument was that through ignoring the expansion in the mass of the market for textiles in India the nationalists had exaggerated the negative consequences of the augment in British exports to India.

This article through Morris produced a strong response from scholars like Bipan Chandra, Tapan Raychaudhury and Toru Matsui in *The Indian Economic and Social History Review* of 1968. First of all these authors argued Morris had ignored a big body of proof in relation to the decline in traditional handicrafts and the economic location of the weavers which was easily accessible and scattered in a wide diversity of sources ranging from government and famine statements to eye-witness explanations. The augment in the imports, which entered the Indian market, was therefore dramatic that the decline of artisanal manufacture was inevitable. Secondly they argued that the domestic market could well have grown a small because of an augment in the population, but there was extremely small proof to suggest that there was an augment in the per capita income of the country throughout the 19th century. In information all the proof pointed towards either a decline in the per capita income or stagnation. The technical changes in the cotton textile industry of Britain in excess of the course of the 19th century led to a steady lowering of the cost of manufacture, which enabled Lancashire products to flood the country. Although Morris had argued that the reduction in the price of imported yarn into India would have helped the weavers to produce bigger cloth at lower cost this was not of great help to the Indian weavers.

In his rejoinder Bipan Chandra argued that the ratio of yarn imports to those of woven goods was extremely low. Flanked by the years 1849 and 1889 the import of cloth increased through 25.5 millions sterling, which was a twelve and a half times augment while that of yarn increased through only 1.8 millions sterling, which was a four times augment. Besides the productivity of the British weaver was growing while that of the Indian weaver remained stationary. Furthermore, the export price of woven cotton goods from Britain was falling distant more rapidly than that of yarn. The standard export price per pound of yarn fell from 29 pence in 1819-21 to 15.3 pence in 1829-31 to 12

pence in 1844-46 to 11.7 pence in 1859-61 to 12.8 pence in 1880-82. Throughout the corresponding era the standard export price per pound of cloth fell from 70.3 pence to 40.6 pence to 22.5 pence to 20.5 pence to 19.4 pence. Besides the spinners in any case suffered a decline in employment and income precisely because of the imports of the cheaper foreign yarn.

What is motivating is that however Bipan Chandra argued that the job of Thorner only showed that census data were “ too unreliable to prove or disprove” the case for de-industrialization he also asserted that “ the Indian weaver could hold his own to a limited extent only after 1918 since a result of technical transform, i.e. mechanization.” Few of the recent job on the handloom industry develops this argument much further than the nationalists might like, but even they were willing to believe this point in 1968. Tapan Raychaudhuri is critical of Morris but he does acknowledge that the argument in relation to the destruction of Indian handicrafts through British manufactured goods imported into India has a extensive history and pedigree. D.R. Gadgil in *Industrial Development of India in Recent Times* in 1924 first asserted that the village weaver remained mainly untouched through European competition. He also referred to the intricate factors that led to the decline in handicrafts. Since for Raychaudhuri himself he prefers the viewpoint of Morris that there was no net decline in handicrafts. In his 1936 monograph, *Urban Handicrafts of the Bombay Deccan*, N. M. Joshi argued that there were dissimilar trajectories of the industries in the handicrafts sector, few declined, few evolved and underwent mutations while few new ones appeared by factory made apparatus. A average economic textbook of the early 1950s through Jathar and Beri quoted statistics to illustrate “ the steady development in the manufacture of hand-woven textiles in the twentieth century.” Since distant since Raychaudhuri is concerned the subsistence of handicrafts into the mid twentieth century is not in doubt. What he wanted to emphasize is the “ stagnation of skills and hence of productivity in the secondary sector of manufacture.” The largest argument is that the potentialities for development accessible to countries coming to industrialization late were frustrated because of the constraints produced through colonial rule.

De-Industrialization in Gangetic Bihar

The proof from the Census did not support an argument in relation to the de-industrialization but through comparing the proof provided in the Buchanan-Hamilton survey flanked by 1809-13 and the Census of 1901 A. K. Bagchi was able to conclude that the percentage of the population in Bihar dependent on secondary industries declined from 18.6% to 8.5%. This proof in relation to the decline of artisanal manufacture in Gangetic Bihar in the 19th century was a contemporary nationalist restatement of the de-industrialization of the country throughout colonial rule. The argument did not

depend on the exploit of the census data in the manner that Thorner had debunked. Though, Vicziany challenged this location of Bagchi on many grounds. It was argued that Montgomery Martin had put the data composed through Buchanan jointly in the shape of tables in 1838 and so there was a require to go back to the original records in the India Office Library in London. Even Buchanan's own survey could not be extremely reliable as he sheltered more than 25,000 miles, averaging in excess of 10 miles a day and was dependent on regional informants who may have fed him wrong information because they were fearful of taxes or Company intervention. The principal objection was that Bagchi had in excess of-estimated the number of people occupied in industrial employment in the early 19th century and so he was able to create a convincing case for de-industrialization in Gangetic Bihar. Vicziany contended that Buchanan's estimate of the spinners was weak and several of the people classified since spinners could not have supported themselves on the foundation of spinning. Since is extremely apparent few of the objections against Bagchi's exploit of data are a matter of interpretation. The spinners in the early 19th century earned sufficient to support themselves. Besides in his view it was enough to demonstrate that spinning was the principal means of living for such clusters of people, not that it supported them fully. On the other hand the view of Vicziany was that spinners earned meagre sums and that it would be more suitable to characterize such clusters since section-time spinners. For Bagchi the information that households were occupied in a multiplicity of economic behaviors was proof of prior de-industrialization.

Since Sumit Guha has pointed out the calculation of employment in the traditional artisanal sector will depend on the estimates of labour necessities of hand spinning to a considerable extent. Bagchi has estimated secondary sector employment on the foundation of a ratio of 20 spinners to one weaver in Gangetic Bihar in 1809-13. For his section Twomey follows Om Prakash in assuming that 2.5 spinners are required to supply one weaver with yarn. If Twomey had used Bagchi's ratio then he would have estimated the decline in employment throughout the era 1850 and 1880 at 23 million instead of 3.55 million FTJE. The term FTJE refers to the job done through a number of section-time spinners and weavers that would be equal to the job done through a spinner or weaver if he had been employed fulltime. If Bagchi had used Twomey's ratio in his revised calculation then the secondary sector employment would be a modest 12.9% of the population instead of 21% in 1809-13. The decline in employment from 12.9% to 10.5% in 1901 would not be a extremely significant decline. Sumit Guha for his section has estimated that it would need the output of six spinning FTJE to meet the requires of yarn for one weaving FTJE. Since a consequence of this revised ratio of spinners to weavers the loss in employment in the handicraft sector should be estimated at in relation to the 7.7 million FTJE. Although Guha revises the estimates given through Twomey upwards he also argues that the ratios of 20 to 1 or even 15 to 1 assumed through Bagchi are extremely high and unrealistic.

Although Krishnamurthy broadly agrees that there was decline in the number of people occupied in industrial behaviors in the 19th century he has drawn attention to the specific characteristics of this procedure. In a 1985 *IESHR* article he argued that Bagchi estimated the number of people occupied in artisan action in 1809-13, other than in spinning, through multiplying the number of people accounted since 'artisans' through an assumed family mass. This process overstates the dependence on industry in the case of the artisan families. Though, this process does not take into explanation the industrial action of other artisan families of Gangetic Bihar. For mainly women spinning does not seem to have been a biggest source of living. It would be closer to the truth to classify women workers in the data for 1809-13 since workers occupied in rice processing than in spinning. On the entire, though, there was a significant decline in the biggest industries like cotton and silk. Through and big there was a shift towards producing coarse cloth, which required coarse handspun yarn. Patna, Gaya and Shahabad became significant centres of coarse cloth, like *motia* or *gazi*, which was even sold in the North-West Provinces. Maldehi – a fabric produced through mixing cotton and silk was extensively produced in Bihar, since was tussar silk. Few of the minor industries were not badly affected. The carpet industry did reasonably well and the *Karga darris* of Patna flourished. The leather industry did suffer a decline because of the augment in the exploit of foreign-manufactured shoes but the exploit of Indian leather for creation water buckets, bellows, oil and molasses jars survived. The location of the leather workers suffered a decline partly because of the export of hides and the gradual decline and disappearance of customary payments at harvest time. General pottery too survived in the 19th century.

Local Differences in the Procedure of De-Industrialization

Since a result of many detailed studies of the nature of traditional industries in the colonial era the discussion of de-industrialization has become more intricate and nuanced. Through now mainly scholars have approach to accept that there was not much proof for deindustrialization in the 20th century. In information few authors like Tirthankar Roy have even argued for an augment in the share of handicraft and handloom manufacture in the domestic market for textiles. Though he sees a decline in employment in cotton, silk and wool weaving in the years flanked by 1911 and 1931 based on the Census data. Employment also declined in the middle of potters and braziers and those who pounded rice and extracted oil. There was small transform in the wood, metal and leather industries. The picture for the 19th century too does not seem since dismal and stark since it looked to the nationalists of that time. Section of this can be explained in conditions of the greater awareness of local differences. The flood of British manufactured goods which entered the country in the 19th

century specially effected the economy of eastern India which was the worst affected of the areas of India. The transform in the fortunes of Bengal artisanal manufacture was quite dramatic. From a area, which supplied the British East India Company with the main quantities of its textile products for sale in the European markets throughout the century before the battle of Plassey it was subjected to colonial use after the British acquired the Diwani of Bengal, Bihar and Orissa. This area became the worst victim of British manufactured imports into the country throughout the 19th. century however the reversal in the fortunes of the weavers and artisans of eastern India began soon after the battle of Plassey. While few historians like Tapan Raychaudhuri and Sushil Chaudhuri regard the decline in the fortunes of Bengal since mainly a post-Plassey phenomenon others have seen a greater stability in the economy of 18th century Bengal. It has been argued in more recent articles that the inflow of manufactured goods into the Madras Presidency was on a lesser level than in Bengal Presidency and that textile exports from Bengal fell more considerably and more quickly than in Madras in the 19 century. In the case of western India the inflow of manufactured imports was delayed because of the poor growth of transport facilities in the area. In 1881 in Rajasthan there were barely 400 miles of railways and manufactured imports could not reach the people livelihood in the inaccessible regions until after World War I. Through 1931 in excess of 2900 miles of track had been laid and the regional artisans began to side competition from manufactured imports. Not only did competition from manufactured imports approach late in the case of Rajasthan the principal competition it faced also came from Indian mills rather than from imported textiles. The similar building of railway rates that favoured the movement of manufactured imports from the ports into the hinterland and of raw material from the interior to the ports also helped the Indian mills based in Bombay to transport their products cheaply to Rajasthan. It also enabled Rajasthan to move its raw cotton for sale to other sections of India at a lower cost.

De-industrialization in South India

In a revise of handlooms in the Madras Presidency in the 19th century. Konrad Specker has argued that the volumes of Lancashire goods, which entered Madras in the 19th century, were less than in Bengal but in both areas there were changes in the composition of foreign deal marked through a rising share of agricultural exports. There were, though, few variations in the fortunes of handlooms in the two areas. In 1845 the Madras Board of Revenue concluded on the foundation of an enquiry that the number of looms since well since of weavers had increased in mainly regions in excess of the preceding 25-year era. In 1871 the Board of Revenue said that the number of looms had increased as the second half of the 1850's through in relation to the 20-25%. In examining the nature of the handloom sector one has to take into consideration the "huge yearly fluctuations" in the

individual districts, which were the product of short eras of crisis. The short-term crises were produced through famines and epidemics, which led to the death, migration or impoverishment of weavers. The weavers were adversely affected both through the rise in the price of the yarn they used and a fall in their purchasing domination and that of their consumers. When the harvests were bigger and agricultural circumstances improved the number of looms would quickly go up. This indicated the extent to which the traditional textile sector was dependent on the fortunes of agricultural manufacture and the consequent expansion and contraction of the domestic market.

When the commercial settlements of the East India Company were shut down a decline in textile exports from Madras Presidency set in on a significant level in the 1830s. With the withdrawal of the East India Company investments there was a common shift towards the manufacture of coarse diversity of cloth instead of the finer cloths produced earlier. There was a significant decline in the manufacture of fine. Excellence cloth and the number of looms increased precisely because more coarse cloth was being produced. The fall in the excellence of English textile exports to India in the first half of the 19th century forced the traditional textile sector to produce greater quantities of coarse excellence cloth than they might otherwise have done. In the northern districts of the Coromandel Coast, where Company demand earlier had stimulated the manufacture of fine cloth, the closure of their establishments led to the stagnation or decline of looms. In the southern districts looms either stagnated or increased.

Increased manufacture of coarse diversities of cloth led to the relocation of the textile industry towards the southern section of the Presidency. Through shifting into the coarser diversities of cloth and through producing items suited to regional tastes and demand the traditional sector was able to withstand competition. The Madras Board of Revenue, which had estimated that there were 280,000 looms in 1870-71, concluded that there were 300,000 looms in the Presidency in 1889. The income of the weavers declined with the rising shift towards the manufacture of coarse cloth because the raw material costs determined the final sale price more in the case of coarse rather than fine cloth. Consequently more weavers had to live off smaller money incomes. Just as to Specker the incomes of weavers declined as the augment in the number of weavers and looms was not accompanied through a corresponding rise in manufacture. The prevailing low prices of grain, though, ensured that their real wages did not fall too much. The increased manufacture for the regional market discovered the producers of coarse cloth to greater risk in eras of famine. Throughout the famine of 1877 the weavers had to pay high prices for the grain that they had to buy for consumption because they did not produce it themselves. In addition the fall in the purchasing domination of the peasantry forced the weavers to sell their products at a loss, the losses often since

much since 30%. The share of imports in the total yarn used in Madras Presidency was 37% in 1870 and rose to 55% in 1890. A lot of the yarn was imported from Bombay.

The exploit of imported yarn was restricted to the regions approximately Madras partly because of transport costs. In the 1870's the bulk of the imported yarn was "in the lower ranks of the transitional-excellence range." Machine-made yarn was measured bigger for the transitional excellence range. Given raw material and labour supply circumstances in India traditional yarn of the roughest type was measured more appropriate. Guledgud weavers used both European and traditional yarn for their products. While the European yarn had the advantage of strength and purity the indigenous yarn was more appropriate for dyeing. On the entire English yarn was preferred for the warp and Indian yarn for the weft. Specker concludes that in quantitative conditions there was no 'destruction' of the traditional textile industry. Despite regional differences the number of looms tended to rise from 1820 to 1870. Despite a rising shift towards coarse cloth and troubles of oversupply and 'socio-economic strain' many products were able to expand manufacture based on their specific advantages like those produced through the weavers of Kornadu and of Guledgud. Unlike several other experts earlier who whispered that the competitive location of the Indian weavers was strengthened through the exploit of the cheaper and larger imported yarn for Specker this was not extremely significant. Firstly, the cheaper machine-made imported yarn was accessible in significant quantities only after the shift to coarse cloth manufacture in India had already taken lay. Secondly, indigenous yarn of the coarsest and the finest qualities "proved to be more economic and/or larger in excellence than imported yarn."

While Specker and C.J.Baker argued that the traditional handicraft manufacture could not survive the competition from Lancashire imports in the 19th century and had to shift into the coarse cloth market the recent proof for the 20th century points towards a comparative augment in the share of the unorganized sector in the 1930s. One of the factors, which helped the handloom industry to expand its output, was the transform in the traditional clothing habits of the people of Madras Presidency. The statement of the 1942 Information Finding Committee was that the competition flanked by the Indian mills and the handloom weavers was mainly serious in the medium counts flanked by 21s to 50s throughout the 1930s and 1940s. In the Tamil districts of the Madras Presidency handlooms survived competition through changing their products in four kinds of methods:

- The weavers began to produce fine coloured cloths with high-count yarns or silk and less often with gold threads or *jari* for the upper end of the market.
- Artificial silk yarn was also used to weave coloured cloth for the less well-off consumers in India and abroad for exploit on ceremonial occasions.

- Coloured cloth was exported abroad and low count yarns were used to weave coarse cloth for the lower class consumers.
- In Madurai and Salem weavers survived through producing silk sarees, silk *angavastrams* or cotton ones with silk borders.

Weavers occupied in the manufacture of coarse cloth *duppattis* in the 1880s shifted through the 1930s into producing *angavastrams* of larger excellence. In Tanjore, Kumbakonam, and Kornadu only silk weaving lived. Saurashtra Brahmins and Devanga Chettis in Tanjore worked only with pure silk. In Ramnad district, in the middle of others, the weavers shifted from producing rough cotton sarees to producing cloth from artificial silk and mercerized yarn.

The rising exploit of cheaper and more attractive Japanese mercerized yarn not only displaced Indian mill-made yarn but also helped the handloom sector survive competition from Indian mills. In many districts since coarse cloth manufacture was affected through Indian mill manufacture the weavers shifted to the manufacture of *kailis* or *lungis* and Madras handkerchiefs that had been manufactured on a much smaller level earlier. Madras handkerchiefs were exported primarily to West, East and South Africa where they were used since clothing since well since curtains and cushion covers. The lungis were widely used in the South-East Asian countries and in Ceylon. While Indians settled in these countries had a taste for the products from Madras the *lungis* were also popular with the consumers in sections of Africa and South-East Asia. Yanagisawa has estimated that the share of the coarse diversities of cloth for the domestic market was almost certainly less than one-third of total manufacture in conditions of value in the Tamil regions. Changes arising from transformation of clothing habits also had an effect on the development of the handloom industry. While the decline in the exploit of turbans and *angavastrams* and the rising adoption of shirts, shorts and hosiery helped the mill-made goods to create inroads into the regional markets there were other sartorial changes, which favoured the handloom industry. The rising demand for saris in north India, rising exploit of blouses in south India, rising non- Brahman demand for cloth formerly used only through the Brahmins, and the growing demand for artificial silk sarees through the poor classes were the factors which created the demand for the products of the handloom industry in Madras Presidency.

De-industrialization in Western and Central India

The Madras Presidency may have escaped the consequences of expanding British manufactured exports to India, but not therefore the Central Provinces or Western India. Through in

relation to the 1840 for India since a entire and somewhat later for the Central Provinces British imports to India became a significant economic factor. In conditions of the volume of exports in 1839 and in value in 1843 India became the principal market for British textile exports. Through the end of the 19th century Indian textile imports averaged more than two billion yards a year and were valued at almost 20 million pounds annually. India absorbed more than 40% of the total cloth exports of Britain through the end of the century. Indian mill manufacture also began to augment significantly in the 1870's. In the light of these factors a decline in handloom manufacture was only to be expected. Although it met the whole domestic demand for cloth at the beginning of the 19th century the handloom sector was able to retain only a quarter share of the domestic market through the end of the century. The handloom weavers of the Central Provinces were able to retain almost 40% of the domestic market until the beginning of the 20th century and so were more successful than their counterparts in other areas. Harnetty argues that de-industrialization did take lay in the 19th century even however it was only incomplete.

The downward trend in the 20th century was checked partly through the diffusion of larger technology and partly through government attempt to reverse the procedure of decline in handloom manufacture. On the entire the location of the weavers deteriorated in excess of the course of the 20th century. The introduction of the fly-shuttle slowed down the decline in the handloom weavers' share in the total manufacture and consumption of cloth but the earnings of the weavers did not rise. The Information-Finding Committee of the Central Provinces accounted that the number of looms in the province declined through 25% flanked by 1932 and 1940. Despite the decline in the number of looms and the population supported through them the output of cloth flanked by these two dates remained unchanged or rose somewhat. This was made possible through the augment in output per capita as through 1940 half the handloom weavers in the Province had adopted the fly-shuttle. This was a significant transformation in the technology of manufacture because in 1919 less than 2000 fly-shuttles were in exploit in the entire province. The standard per capita income of a weaver's family was estimated at approximately Rs 93 a year or in relation to the four annas a day in 1939-40. So, Harnetty has argued that however the gains in productivity enabled the handloom sector to augment its output even with a decline in the number of weavers, the per capita income of the weavers remained at the stages they had been at the end of the 19th century.

There was a transform in the nature of handloom manufacture in the extensive run not only in conditions of technology but also of site. The handloom weavers who survived were concentrated in presently a some urban centres like Nagpur, Umrer, Pauni and Burhanpur. There was a transform in the composition of the weaver society both in conditions of their ability stages and their caste backgrounds. Weavers like Koshtis and Momins who were the clusters with higher skills and caste

status sustained in their old jobs and normally did not accept employment in the cotton mills. Village artisans with lesser skills, occupied in coarse weaving, since a section-time job jointly with job of a menial type could not continue in their traditional job, turning to factory job or agricultural employment. *Saris* and *dhotis* were few of the traditional garments produced through the handloom weavers, but the range of their products had greatly shrunk because of changing fashions and competition. Although the exploit of machine-spun yarn enabled the handloom industry to survive it also increased their dependence on middlemen. A organization of advancing credit to the weavers urbanized in the Central Provinces in the late 1860's since a result of the decline in hand spinning and the dependence of weavers on mill yarn, especially in the urban regions. This increased their dependence on middlemen both reducing their profits and subjecting them to the vagaries of the market.

However the fly-shuttle was an significant factor in the skill of the weavers to withstand competition the innovation was not readily carried in the early levels. In his attempts to popularize the fly-shuttle Chatterton exposed that the weavers of coastal Andhra districts, the Guntur and Krishna districts, were more responsive than those of big centres like Conjeevaram, Madurai, and Salem. In section this could be attributed to the greater rigidity of the caste organization in the Tamil urban centres. The rigidity and prejudices produced through caste could also partly explain the slower acceptance of the fly-shuttle through the Koshtis, a ritually pure caste of weavers recognized in the deal for extensive in the Central Provinces. On the other hand the Padmasalis who were Hindu immigrants from the Muslim state of Hyderabad had fewer prejudices much like the Momins who were Muslim immigrants from the Ganges valley. The diffusion of the fly shuttle and the spread of the cooperative movement in the late colonial era helped the handloom sector of the Central Province to cope with the competition from the domestic and foreign mill sector.

De-Industrialization and the Impact on Employment

In a brief article on the subject of employment in the textile industry of India in the 19th century Michael Twomey argued that the mainly severe employment effects of 'deindustrialization' took lay flanked by the years 1790-1830 and the years 1850-1880, the decline in the later era being much more significant. On the foundation of his calculations Twomey concludes that employment in this era declines in Bengal through 244,000 FTJE and for the rest of the country through 56,000 FTJE. The full time occupation equivalents are calculated through including data on the number of weavers with that on spinners, the latter being mostly section-time workers, in conditions of full-time employment. As the value of Calcutta's exports fell from 14 to 1 million rupees or through 95% and

that of the rest of the country fell from 11 to 8 million rupees or through 30% throughout the era 1790-1830 the greatest decline of employment was naturally in the eastern province of Bengal. Although the decline in textile exports constituted in relation to the two-thirds of Indian textile exports the drop was not a significant proportion of total manufacture. The local bias in the decline in employment is obvious and there were few options for weavers to take up silk weaving and by imported cotton yarn. The era 1830-1850 separates the era of declining Indian exports from that of declining handicraft manufacture. There was not much decline of handicraft manufacture as cloth imports constituted in relation to the 1 yard per person through 1850, which would have constituted in relation to the 10% of Indian manufacture.

The real decline in employment took lay in the post-1850 era when Indian manufacture fell to less than 40% of Indian consumption. So the greatest decline in handloom manufacture took lay in the 1850-1880 era when the cloth imports in India increased through 1500 million yards or 6 yards per person. Total consumption is estimated at in relation to the 11 yards per capita for this era. Twomey estimates that textile employment declined in this era through 3.6 million FTJE's, however the loss could modify flanked by 2 to 6 million FTJE's depending on the dissimilar ways used for estimation. The loss of 3.6 million full time occupations would have amounted to approximately 1.5% of the 1850 population of 250 million. This is twice the absolute number estimated through Feuerwerker since the loss in employment in China throughout 1870-1910 due to imports of yarn from India and later Japan. Although handicraft textile employment fell in absolute conditions during the 19th century, throughout the era 1800-1850 the development of population did counteract the power of the decline in textile exports. On this point Twomey supports the argument of Morris. Through 1930 per capita imports had declined to 5 yards per capita from the stage of 8 yards before World War I and the fate of Indian handlooms depended increasingly on competition with Indian mills rather than foreign mills.

In *The Cambridge Economic History of India*, Vol. II it has been argued that flanked by 1881 and 1911 the share of agriculture, inclusive of common labour and of behaviors related to agriculture, did not transform at all growing merely from 72.4% to 74.5% of the workforce. However the share of manufacturing fell from 10.6% to 9.1% in this era section of this decline can be attributed to the information that all manufacturers-cum-sellers in 1881 were incorporated under 'manufacturing' whereas in the Census data of 1911 this inclusive category was dropped. Instead people were classified since either manufacturer or seller depending on which economic action was predominant. There was a decline of the workforce occupied in both the behaviors of production and deal and commerce from 15.5% to 14.6% in this era. This analysis of the workforce applied only to the male population. The era 1901-1951 while employment in factories in the manufacturing sector

rose from 0.6 to 2.9 million employment in little-level enterprises declined from 12.6 to 11.4 million. The national income estimates made through Heston the real output of little-level industry rose through 14% flanked by 1900-1/ 1904-5 and 1942-3/1946-7. In the traditional industries there was few decline in employment from 2.4 million to 2.2 million flanked by 1911 and 1951 in the case of cotton spinning and weaving. As handloom output in undivided India increased from 965 million to 1068 million yards in the era flanked by 1902-3/ 1912-13 and 1930-1/1937-8 Krishnamurthy concluded from this that the output per worker in this era necessity have risen.

The substantial decline in the employment of leather workers was a consequence of the rise of tanneries and shoe factories that progressively replaced the regional leather workers. There were also declines in earthenware and earthen pottery, oil-pressing and food grain processing. Manufacture of handloom textiles, *bidi* and *gur* manufacture did not decline. Taking the whole manufacturing sector into explanation the share of handicrafts in total employment did not decline if the statistics for male workers alone are measured. If the proof for both male and female workers is measured there is a decline from 9.6% to 8.7% flanked by the years 1911 and 1951. This cannot be regarded since deindustrialization because there was a “significant comparative and absolute augment in the output of the manufacturing sector.” Even for the era 1881-1911 the term deindustrialization is regarded since inappropriate as the decline in industrial employment was accompanied through increases in comparative and absolute industrial output.

Recent Writings on De-Industrialization

The interpretation of the causes for the subsistence of handicraft manufacture has in recent times been convinced through the writings of Tirthankar Roy, Douglas Haynes, and Yanagasawa. For a extensive time the literature was dominated through the theory that the only cause why traditional handicrafts survived was through shifting to coarse cloth manufacture, through catering to the requires of the poorest parts of the population in covered regional markets. Within this constraint the traditional producers tried to innovate, adopted the exploit of cheaper imported yarn and tried to produce goods acceptable to indigenious, and especially regional, tastes and preferences. More recent writers take a more optimistic view of the situation of the traditional artisan sector. Roy has recognized four vital procedures at job that convinced the development of the handloom sector. First producers diversified into those sectors where they did not have to compete against mill products. Secondly, the inequality in the middle of the weavers began to grow in excess of time and several weavers actually flourished. Thirdly, there was a rising concentration of weaving in the urban centres where the ways of manufacture were more advanced than in the rural regions. Finally there were

changes in techniques which convinced the handloom sector for instance through the shift from cotton to man-made fibers and the adoption of techniques that had a tendency to reduce the role of labour, especially family labour, in yarn processing.

Just as to Roy handloom factories appeared in southern and western India throughout the 20th century and large weaving cities like Sholapur, Salem and Nagpur had '*karkhanas*' which through the mid-20th century had a capability of flanked by 10,000 and 20,000 looms each concentrated in these cities. Weavers throughout the 1920s and 1930s were increasingly coming under the power of a big trader or producer. Size manufacture and deal urbanized more in the south because the preference for handlooms in this area was more pronounced and the dresses and costumes were less subject to changes in fashion. Factory cities urbanized in the south based on the migrants from the dry and famine prone zones in which they were situated. These factory cities were characterized through sharp inequalities in the middle of weavers especially because the migrant weavers of the lower castes had "unequal access to markets and possessions." In north and east India where weaving was predominantly a rural action the trader-cum-moneylender acquired greater manage in excess of the weaver-producers. Size manufacture was also made possible through a market-distribution pattern that urbanized. The mills produced piece-goods or cloth that had to be stitched while the handlooms produced finished products, specially draped cloths. The handlooms produced coarse and fine cotton since well since pure and waste silks. Their loom woven designs, primarily bordered garments were popular. The mills produced more medium-count cotton and printed cloth. In the inter-war era when viscose fibers were first used handlooms benefited more than the composite mills. The small-scale domination loom sector, which appeared in the mid-thirties " was an outgrowth of the handloom elite."

While cloth output fell through 40% flanked by 1850 and 1880 and loom age may have declined since well, Roy asserts that in the first twenty-five years of the 20th century handloom manufacture rose through 30% in both India and China. The number of looms and weavers grew in Egypt, Syria and Java for short eras of time flanked by the late-19th century and the mid-20th century. In India weaving was relatively detached from the land and the weavers were apparently the "only prominent craftsmen excluded from the *jajmani* organization of product distribution." The handloom industry was able to survive because of the "persistence of decorative and intricate weaving" which is not related to expensive products or luxury goods. Though, throughout the era of expansion in the 20th century it was based more on real incomes rather than comparative prices. Direct competition with the mill sector was not a biggest factor affecting the development of handlooms. In information development was based on a polarization flanked by producers in these two sectors. Roy has asserted on the foundation of his calculations that however the share of

handlooms in the house market were subject to considerable fluctuations the upswings seemed to get progressively higher. The share of handlooms in the domestic market rose flanked by the years 1900-4 and 1935-39 from 27.6% to 31.6% while the share of imports throughout the similar era dropped from 57.4% to 11.8% and that of Indian mills rose from 15% to 56.6%. The fall in handloom market share to 24.4% in the years 1915-19 could be because of a raw material crisis. The fall in market share in the late 1920s after an upswing in the early 1920s could in section be the consequence of protective tariffs that were heavy on yarn and specially “on the larger excellence yarn, which the handlooms preferred.” Once the domestic capability for producing larger yarns increased the handloom share in the domestic market recovered. Since weavers who used above-40s counts and those who used bigger yarns were adversely affected through tariffs and nationalist agitations in the 1930s the cities of Dacca and Santipur in Bengal actually experienced an augment in unemployment. The stage of wages in the handloom sector and the mill sector were surprisingly secure. Just as to Roy’s estimate the weaver’s piece-rate per yard converted to a monthly wage in relation to the 10% below the mill standard rate. The typical weaver was though employed for only two-thirds of a year. Moreover the gap in the earnings of the little weaver families and the *karkhanas* by hired workers widened throughout the inter-war era. The output augment in the inter-war era has to be attributed to technological transform primarily because the total number of looms remained more or less consistent approximately 1.9 to 2 million looms throughout this twenty-year era. The proportion of pit looms with fly-shuttle attachments rose from 5% in 1920 to 35% in 1940. As bigger looms substituted for surplus family labour the improvement in the productivity of looms was based on widening differentials in the incomes of dissimilar categories of weavers. Just as to the official statistics the informal or handloom sector stagnated or declined in the decade of the depression in the 1930’s, but Tirthankar Roy on the foundation of his own reconstruction of the data concludes that throughout this decade while the shares of physical outputs remained consistent the value of the products of the handloom sector actually rose. The share of the handloom sector in the total value of products rises in the 1930’s partly because of the development in the manufacture of non-cotton manufacture, most products intermediate flanked by fine cotton and pure silk. Essentially the value of the output of the handloom sector rose because of the diversification towards costlier and larger products.

The classification of handlooms through fineness of yarn reveals that flanked by the years 1906 and 1940 they were supplying a smaller proportion of coarse cloth through the latter date. This was a break from the trend in the nineteenth century when handlooms did well in coarse goods and fairly well in medium and fine cloth. In the years flanked by 1906-1940 coarse-medium and medium cloth handloom manufacture gained but the mills gained much more from the decline in British

imports. This was because the Indian mills produced coarse and medium count yarns. Observes Roy, “ Import-substitution in cloth through the mills favoured these classes, whereas import-substitution through handlooms favoured the finer classes.”

In a recent publication titled *Traditional Industry in the Economy of Colonial India*, Tirthankar Roy has argued that the destructive face of colonial rule for the industries of India has been accentuated through the dominant viewpoint. His book, on the other hand, trades with the “ creative impact” of colonial rule and asserts that there are sure similarities in the effects of extensive-alooofness deal on the artisans of India since well since those of Britain and Europe. Dissenting from the dominant view in Marxist and nationalist explanations of the destructive impact of colonial power Roy argues that the proof does not support such a view. The experience of textiles is ambiguous. While competitive imports effected few handloom weaving in the case of non-competing cloth manufacture the experience of extensive aloofness deal was more positive and creative. Secondly, the proof on employment is regarded since ambiguous because it does not take into explanation the changes in technology and institution within artisan manufacture. Finally the dominant view is inconsistent with the extensive-term character of industrialization in India as the informal sector has remained significant extensive after independence. Even in 1991 in relation to the 71% of industrial employment was outside registered factories; in 1911 the proportion was 95%. On the foundation of the changing interpretation of the Industrial Revolution and proto-industrialization the progress of industrialization is not regarded since a procedure of replacing apparatus with machinery, of old with new technology but of numerous hybrid methods of by labor in artisanal manufacture under new circumstances of manufacture and swap. Although the author disagrees with the Marxist view of colonialism and of growth and highlights the creative responses of traditional industry to extensive-alooofness deal he does recognize the limits of his re-interpretation. India did industrialize in the sense of replacing domestic labour with wage labour and improving industrial institution, but the procedure of transform was weak. India did not experience “significant structural transform or economic growth.” The rise in agricultural productivity and rise in domestic demand, which could have stimulated the development of Indian industries, was away. Industrialization was also slowed down because of a continued high population development rate and the limited availability of institutional credit for the financing of fixed investments. Roy trades at great length with the creative transformation of traditional industry but acknowledges that it did not lead to a rise in standard incomes or a new paradigm for technology fund or administration. The problem was that this industrialization was constrained through “informal training, informal credit, and plenty of low excellence labour.” In therefore distant since social factors based on caste restricted entry into and exit from traditional jobs this factor too contributed to India’s economic

backwardness. The transformation of traditional industries in India in the colonial era has been well documented in the job of Roy and Haynes. There was a shift from manufacture for regional exploit to a procedure of manufacture for a wider market, from regional to extensive aloofness deal, a transform in consumer and producer activities associated with the development of extensive-alloofness deal, and of institutional and other changes associated with these growths. Deal led to a reduction in the regional manufacture of many inputs like cotton yarn, jari and dyes and the development of imports. The exploit of imported sheets in metals and blocks in glassware increased. Since a consequence of manufacture for the market, handlooms for example, gravitated towards the cities where input deal was concentrated. Purely economic factors were more significant in the development of craft cities in the colonial era. Cities like Sholapur, Salem, Ludhiana and Surat served primarily non-regional markets. The ways of sale of products shifted from mark to contractual arrangements. There was a decline in the excellence of output since manufacture was rising for far and anonymous consumers. In order to cope with the troubles arising from commercialization, craft cities either tried to improve excellence manage or simplify products for the size market.

Surat *jari*, Mirzapur carpets and Moradabad brass were craft-city products, which adapted to the size market. There was a greater primacy of the craft in the procedure of manufacture and despite the rising importance of deal and fund in the 20th century it was easier for the producer to become a financier or merchant. There were two kinds of manufacture elements, which lived. One was the hierarchical team of male Muslim artisans, which “crystallized approximately master-apprentice lineages”, and the other was the hierarchical team of parents and children in rural or semi-rural crafts or in the middle of Hindu artisans. Under the first kind of element, where the division of labour was more elaborate than under the second, several of the mainly refined products were produced in the *karkhanas*. There is a case for a decline in employment, but the loss in employment cannot be attributed to the rise in imports alone. The numbers of potters and braziers also declined, since did those of rice ponders and builders. A range of quasi-services placed in the category of ‘dress and toilet’ was also adversely affected. Roy argues that the decline in these industries, which did not side competition from British goods, has to be regarded since “an effect of an since yet poorly understood macroeconomic transition.” If British policy had an effect on this procedure of transition it was an indirect one. Although Indian handicrafts did decline somewhat the procedure of industrialization does involve the replacement of skilled workers through machinery. Moreover the real income per worker in industry increased at a compound rate of development of in relation to the 1.7% per year throughout the era 1900-1947.

Real income per capita grew through 0.7% throughout the similar era. All this creates possible “a non-Marxist interpretation of the decline in handicrafts.” National income data is used to

prove that throughout the colonial era there was an augment in productivity. Real income in 'little-level industry' increased through 72% flanked by 1901 and 1947 even however employment declined. Standard income in this sector increased through in relation to the 1.1% per annum; the standard rate for 'big level industry' was lower at in relation to the 0.9% per annum. The traditional handicrafts did not survive primarily through accepting lower incomes and "becoming an industry of the poor for the poor." In actual information while few weavers and artisanal producers suffered declines in both income and employment there were other segments of these industries which improvised and succeeded through improvements in technology and institution. The steady decline in the numbers of low-productivity workers is misinterpreted since proof for a common decline in handicraft manufacture. There were technical changes which facilitated increases in productivity: the exploit of the fly-shuttle, innovations in plating and polishing in brassware, exploit of domination in the plating of wires in jari manufacture, vegetable dyes and the warping mill in the case of textiles. There was also the development of urban centres precisely because of urbanization in the crafts. Urbanization in 19th century India was closely related to craftsmen movements. Though, in India the "productive role of artisans did not connect strongly with rapid economic growth" since in the case of Europe and East Asia.

CRAFTS INDUSTRIES AND SMALL SCALE PRODUCTION

Little-Level Industries and Large-scale Industries: Similarities and Contrasts

Big-level industry can be defined through three vital aspects, exploit of machinery and steam-powered technology, big factories, and few shape of government regulation, mainly significant of which was the Factory Act. The huge majority of industrial firms in India in the past or the present times, though, did not exploit machinery, were situated inside households or little workshops rather than big factories, and were not subject to government regulation. We call this sector 'small-scale industry'. Handicrafts shaped a significant subset of little-level industry. These industries dated from before colonialism. Keeping this characteristic in mind, handicrafts have sometimes been described 'traditional industry'. Significant examples of traditional industry or handicrafts are handloom weaving, leather production, a diversity of industries by metals, wood, and minerals, etc. In contrast to traditional industry, all of big-level industry was of recent vintage, it was a product of the Industrial Revolution and India's secure political and economic get in touch with Britain.

Separately from technology, institution, regulation and vintage, there were a some other points of contrast and similarities flanked by big-level and little-level industries. Big-level industry in India was concentrated in two provinces, Bombay and Bengal. Through contrast, in relation to the

1950, almost half the employment in little-level industry was situated in the United Provinces, Punjab and Madras. Therefore, big-level industry and little-level industry involved dissimilar areas. And similarly, the industrial histories of dissimilar areas in India involve dissimilar kinds of enterprise. There was less of a contrast in composition. Through distant the mainly significant industry in the middle of both sets was textiles. One in every four workers overall was employed in textiles. After that in importance were food processing, metals, wood products and hides and skins. We can conclude from this pattern that industries, rigorous either in natural possessions or labour, dominated the composition of both. The relatively high resource-and labour-intensity characterized little-level and big-level industries. The little-level and big-level, contemporary and traditional, had secure relationships. Big-level industry supplied raw materials to little-level. Workers often moved flanked by them. And little-level industry workers and entrepreneurs sometimes learnt their skills and acquired new ideas through working in big-level industry. The former could even buy secondhand machinery from the latter. Textiles supply examples of all three.

Common Tendencies in Little-Level Industry

We require to now seem at the dissimilar stages of the history of little-level manufacture, and explanation for the changes that occurred within them.

The Seventeenth and Eighteenth Century

Contemporary industry began in India from in relation to the 1850s in few sense since an extension of industrialization in Britain. India, though, was a world leader in handicrafts and little-level industry such since hand-loomed textiles in the pre-colonial era. At 1750, India supplied in relation to the a quarter of the world's industrial output, and perhaps a superior percentage of world textile exports. India was, therefore, significant in world deal. But it is not clear that world deal was therefore significant to the textile economy within India. At the end of the eighteenth century, cloth export from India amounted to in relation to the 50 million yards, whereas total manufacture within India could not have been smaller than 1800-2000 million yards. We know a great trade in relation to the European deal, though, thanks to the deal archives in Europe. In information, having to rely approximately wholly on this resource, we know distant more in relation to the world that traded abroad than in relation to the world that traded in the vicinity and in excess of land, more in relation to the deal than manufacture and producers, and in relation to the textiles than other industries.

The biggest exporting areas in India were Punjab, Gujarat, the Coromandel Coast, and Bengal. These areas had or could get raw cotton, water, and labour. Before European traders entrenched themselves in Indian waters, each of these areas accessed scrupulous trading networks, Central Asia in the case of Punjab, Red Sea and Persian Gulf with Gujarat, Southeast Asia with Coromandel, and Bengal used its waterways to deal with upper India. For a extensive time after the entry of the Europeans, the intra-Asian networks remained in lay. Europe was not the leading market, nor was Europeans the paramount domination until the eighteenth century. Through and big, the weaver worked from within a household element, the women and children of which supplied auxiliary services including spinning in few cases. There were few exceptions to the family firm in the cities of the northern Gangetic plains, in the shape of big workshops owned through rich men. Workers within these typically consisted of all-male master-apprentice teams, possibly more than one team under a roof. We encounter these two common kinds - household and male master-apprentice teams - for a extensive time afterward. But both tended to dissolve into several mutant kinds of wage-labour-based workshops in the late twentieth century.

With the consolidation of Europeans in the Indian Ocean deal, there came in relation to the a extensive-term procedure of transform. Contractual ties flanked by the trader and the producer progressively strengthened in lay of mark transactions, and a better number and greater diversity of intermediaries began to be involved. The dispersed site of manufacture, and increasingly concentrated markets involved rather high information costs. The require to enforce excellence and standardization, and the require to ensure timely supplies, were forever troubles the European traders grappled with. No simple or permanent solution was establish, leaving sufficient room for breach of agreement, fraud, default, and in turn, coercion. European deal in Indian textiles had, therefore, an essentially chaotic character.

The Early Nineteenth Century: De-industrialization?

Through 1800, the Europe-bound export deal network was dwindling. A fairly big demand for Indian handicrafts on behalf of the older nobility and elite whom the British increasingly suppressed, also declined. The first some decades of British revenue policy in the ryotwari regions is often whispered to have caused a common demand depression in the rural regions. And from 1820, English machine-made yarn and cloth began to reach Indian markets. Since a result, cloth and yarn prices almost certainly fell through a factor of three or four in the after that 75 years or therefore. All of these may have combined to trade a blow to Indian handicraft textiles in the early nineteenth century. This phenomenon is recognized since 'de-industrialization' and is whispered to have pushed several industrial workers into other low-paying jobs. The subsistence of an industrial decline in the

nineteenth century is not in question. But the impact, timing, and significance of 'de-industrialization' in the early nineteenth century, are open to question. There is no direct proof on how big the impact was. Nor is there any conclusive proof on the time-table of a likely industrial decline in India. And while all scholars would agree on a big loss in employment in the handicraft textile sector, the level of the corresponding loss in income and common welfare is disputed.

The statistical basis of de-industrialization in the early nineteenth century is based on estimates suggesting a fall in industrial employment in the nineteenth century. Before English imports, an estimated 4-5 million persons were occupied in hand-spinning industry. Employment loss through the end of the nineteenth century was at least since big since this. These estimates, though, do not pinpoint the decline to the early-nineteenth century. On the other hand, local textile histories covering this era suggest that the decline in hand-spinning and hand-weaving was distant more gradual and evenly spread out in excess of time. Increasingly, from the third quarter of the century, positive forces on the demand for handicraft textiles were strengthening. The decline, so, may not have approach since a sudden violent cataclysm, but happened slowly and increasingly offset through positive forces. Since for income loss, hand-spinners were through and big domestic workers or agrarian labour castes who performed spinning on the face. The low opportunity cost of their labour implied that they were willing to perform spinning for extremely little payment. The income loss, so, was necessarily much smaller in magnitude than the employment loss. Further, Morris pointed out that a huge cheapening of cloth due to English imports necessity have caused an expansion in demand for textiles overall. And the effect of a cheapening of yarn necessity has been a net gain for the handloom weavers who remained in business.

To summarize, there is no question that a big number of occupations were lost in the handicraft textiles in the nineteenth century. But we cannot be certain when and in how concentrated a manner this happened. Nor can we assert if there was a big income loss since a result within textiles. And from welfare point of view, these changes were more likely to have been a net gain than a net loss.

The Late-Nineteenth Century: Re-industrialization?

Implicit above was two points that we now require to tackle. First, while a section of the handicraft textiles disappeared in the nineteenth century, a section survived. How did this subsistence occur, given that the technical gap flanked by hand-apparatus and machinery sustained to be wide and become wider progressively? Second, from the late nineteenth century, few positive forces began to job in favour of the handicrafts. What were these forces?

Through every direct or indirect index that we can exploit, the era 1870-1914 saw net expansion rather than contraction in handloom weaving. The extensive-term subsistence of the

handloom can be easily explained through comparative advantages of domination-loom and handloom. In the mid-nineteenth century, two kinds of hand-woven cloth faced keen competition from foreign or Indian mill-made cloth: 'coarse-medium' cotton cloth, and printed and bleached cotton cloth. In these classes machine manufacture and size manufacture were distinctly larger. Through contrast, cloths that used extremely coarse or extremely fine cotton yarn, or intricate designs woven on the loom, or non-cotton yarn, tended to exploit the handloom. These were either therefore labour-rigorous that the mills did not enter them through choice, or used non-cotton fibers that the mills did not want to handle.

The handlooms did not merely survive, but expanded in the twentieth century. How did this approach in relation to the? The factors sustaining this development, on the demand face, were threefold. There was, first, an expansion in standard cloth consumption since a result of fall in cloth prices. Secondly, agricultural development and commercialization strengthened regional demand for traditional textiles and strengthened market networks in many areas. Third, tariff defense to the textile industry from the mid-1920s helped the handloom industry. On the supply face, there was rising diffusion of labour-saving apparatus adaptable to little-level workshop and household manufacture, and changing industrial institution from households to wage-labour-by workshops.

Pattern of Development in Little-Level Industry: 1900-51

Employment

Big-level industry was, and remnants, a relatively little segment in employment. At 1900, it accounted for 5 per cent of industrial employment. In 1991, it accounted for 29 per cent of industrial employment. The overwhelming majority of Indian industrial workers functioned, and continues to function, in little-level industry. Today, the share of big-level industry in real income from industry is in relation to the half. The share increased from 15 per cent in 1900 to in relation to the 40 per cent in 1947. The British era censuses tell us that industrial employment declined steadily and sharply, flanked by 1881 and 1931. It declined from in relation to the 20 million to 13-15 million, while at the similar time, employment in agriculture increased from 71 to 100 million. The percentage of workers in agriculture increased from 62 to 71, and that in industry it declined from 18 to 9. The decline in industrial employment was concentrated in little-level industry. Few scholars, such since Patel, read these percentages to mean that de-industrialization sustained in the late nineteenth century. Further job through Daniel Thorner and J. Krishnamurty has shown that these shifts in occupational building were almost certainly spurious and arose from census definitions. In their reconstruction, occupational building hardly changed flanked by 1881 and 1951.

Though, the Thorner-Krishnamurty critique is not extremely satisfactory either. It rests, in the middle of others, on the argument that the data on women's employment is questionable and should be excluded from analysis. Women's participation in industry declined dramatically in the census era. If women's data are excluded, occupational building illustrates rather small transform. If women's data are incorporated, the share of industry in job-force illustrates a fall. Patel incorporated women, Thorner-Krishnamurty exclude women. The argument for exclusion, though, is rather conjectural and not acceptable. Are we then driven to Patel's perspective that de-industrialization sustained in the late nineteenth century? The answer is, we are not. There can be another account why employment development was little or negative. That is, transform in industrial institution. Employment in little-level industry fell before independence, and grew at a extremely little rate after independence. Post-independence census data illustrate that the low rate of development in employment does not mean an overall stagnation, but a shift from households or family-labour-rigorous firms to little workshops or wagelabour-based firms. In other languages, it implies a shift from less dedicated labour to firms that exploit more productive and more dedicated labour. Mainly household workers job in industry only section-time. Clearly, such a shift can reduce total employment, and yet raise the productivity of labour, which is what happened during the twentieth century. Such a shift is constant with income trends since well. Such a shift also explains why women tended to exit manufacturing job more often. Women worked most in family firms, and family firms were usually in decline. Patel's statistics may well be believable, but it has a dissimilar account, one that provides supply-face changes more importance.

Income

National income data suggest that total and per worker real income in industry grew at significant rates flanked by 1901 and 1947. In information, income per worker almost certainly increased at a faster rate in little-level industry than in big-level industry. Proof of productivity augment is strong also in specific industries like handloom textiles, tanning, and metal job. In textiles, real value-added unquestionably increased, and in all of them, output indicators illustrate development whereas employment indicators illustrate stagnation or fall. Any common explanation of the handicraft industries in the twentieth century requires, so, to explain two things:

- Low or negative development rate in employment
- Augment in productivity.

A story of uniform unqualified decline is constant with the first, but not the second of these facts. A dissimilar story is possible, one that spaces more accent on commercialization of product and labour markets within the handicrafts.

A New Perspective on Industrialization

Commercialization, Competition, and Institutional Transform

Our discussion relates to a era of rapid commercialization in India. Extensive-alloofness deal expanded and local markets integrated due to three factors: foreign deal, contemporary transport and communication, and security of private property rights. Small-scale industry was also transformed through commercialization. Manufacture for existence, manufacture under several kinds of non-market and barter sharing arrangements, and manufacture for regional, rural, periodic and other mark markets declined in favour of manufacture on contract for far markets. New marketing systems arose. These were situated in large municipalities or at key railway points. This rise in extensive-alloofness deal had two kinds of effects: increased competition, changes in industrial institution, and changes in technology.

- Commercialization increased competition within little-level industry. In textiles, leather, metal-job, etc, we see numerous cases of little remote manufacturing customs decaying from the late-19th century because either they were not recognized for good excellence products or were situated too distant from marketing and transportation networks. At the similar time a some big agglomerations appeared, these became concentrations of manufacture, deal, capital, and labour. Artisans migrated in rising numbers. These migrations created or extended markets in labour and capital, and encouraged the hiring of labour.
- Industrial institution changed for two causes. Commercialization made information and working capital essential possessions. These being scarce possessions, those in command of these possessions increased domination and could take closer manage of the manufacturing procedure. Capitalists and labourers became more clearly distinguishable. Therefore did employer-employee relationships. Second, competition in the middle of manufacturers led to increased specialization and division of labour.

A New View: Labour-Rigorous Industrialization

All this entails a dissimilar method of looking at Indian industrialization in the colonial era. The term 'de-industrialization' is sometimes used to show the thesis that while Europe and North

America experienced industrialization, the third world experienced few type of an inverse of 'industrialization'. Industrialization in this case tends to be defined since substitution of labor-intensive through capital-rigorous products. Such a procedure is seen to have occurred in the north, but was impeded in the south. The thought that the third world saw an antithesis of industrialization establish its mainly well-known expression in a scholarship on the origins of underdevelopment, a procedure not restricted to early-nineteenth century India, but fairly common in time and legroom. Based on a reading of the early-twentieth century proof, few recent works in Indian industrial history call into question this usage of 'de-industrialization' since the distorted mirror image of 'industrialization'. These works suggest that a sure type of industrialization took form in India from at least the mid-nineteenth century, which relied on cheap skilled labour, natural possessions, a scrupulous consumption regime that preferred traditional goods, and an internal market-induced drive to achieve greater efficiency in manufacture. This 'industrialization' did not occur through receiving rid of artisans like the hand-weaver. Rather artisans were a section of it and made a positive contribution in it through raising income per worker.

Two Biggest Industries

Cotton and Silk Weaving

Level

In the interwar era, perhaps 3 to 3.5 million persons were occupied in the cotton, silk and wool spinning-weaving industry. The mills employed in relation to the 10 per cent of this total, the rest used most hand-apparatus and were organized in households or extremely little factories. From the late-19th century, it is possible to estimate the level of manufacture of handloom cotton cloth based on quantities of mill made and imported yarn that was left in excess of after exploit through the mills. Handlooms accounted for in relation to the 25 per cent of the cotton cloth produced annually in the first half of the 20th century. Market-share of handloom cotton cloth was roughly stable flanked by the 1890s and the 1930s. The total manufacture of cotton cloth expanded through in relation to the 30 per cent flanked by 1900 and 1939. During this era, total cloth consumption was rising marginally, and Indian cloth was steadily substituting imported cloth. In cloths made of silk and other fibers, handlooms dominated. Taking all fibers jointly except for wool, in the 1930s handlooms' market-share in total cloth consumption in value may have been in relation to the 50 per cent.

The number of handlooms was roughly stable in the first half of the 20th century at approximately 2 million. Growing manufacture and consistent loom age suggest that the productivity and the capability of the looms increased. This can be independently confirmed. Estimates of real wages and earnings in handloom weaving suggest great difference flanked by more skilled and less skilled weavers. But there was no sign of a continued downward trend. National income data, in information, suggest a slow augment in wages.

Circumstances of Demand

At least sections of the cotton textile industry were highly commercialized even before British rule. These segments supplied most foreign deal. From the first quarter of the 19th century, this foreign deal declined, and British cloth began to compete with Indian cloth even in Indian markets. Few commercialized cloth therefore disappeared. But few other cloths that were not heavily traded before became commercialized throughout the colonial era. Cotton textile is the mainly significant instance of a craft threatened through steam-powered technology. The threat came from Lancashire from the 1820s until the pre-war decade. Thereafter, the competition came most from the cotton spinning-weaving mills in Bombay and Ahmedabad. The domination-driven loom is much faster than a handloom. Why, then, did the handloom survive at all? It survived because it was more efficient in sure kinds of traditional clothing. Cloths that used extremely coarse or extremely fine cotton yarn, intricate designs woven on the loom, and non-cotton yarn partially or wholly, tended to exploit the handloom. The mainly significant instance of a handloom specialty, one that is still made on a handloom, is a sari with intended border. In 1930, there were several more such cloths. Turbans, bordered dhoties, checked and striped lungies, were also general handloom items. Through contrast, the mills dominated shirting, suiting, dhoties and easy saris, simply, any cloths that could be woven in extensive sheets with extremely easy design.

Even since handlooms faced competition in sure categories, in those classes where it had a relative advantage consumption grew in the early 20th century. The increased consumption derived partly from rising purchasing domination of those rural areas that produced lucrative cash crops. It also derived from changes in clothing habits. For instance, the depressed castes of South India began to wear a greater quantity and finer kinds of clothing from the turn of the century. In handloom cloth, especially silk, extensive-alooofness deal was not a new invention. But deal approximately certainly increased in extent in the second half of the 19th century. Imported and mill made cloth had destroyed several regional weaving customs. Therefore it had reduced regional transactions of cloth in rural markets or seasonal fairs where weavers and consumers often dealt directly. At the similar time, wholesale deal increased. Likewise, extensive-alooofness deal in yarn, dyes, silk and gold-

thread-all biggest raw materials for the handloom industry-became longer and more organized from the 1870s when these materials began to be imported or made in the mills. Handloom cloth also used these systems. Quite often the wholesale traders in textile raw materials were of weaver backdrop.

The Supply Face

In relation to the 1860, the usual organization of job in weaving was the household. Inside a weaving household, one would usually see adult men working since weavers, adult women on winding and sizing operations, and children since assistants in both weaving and winding. Through and big the family remained the usual kind of element in handloom weaving throughout and after the colonial era. But there was a noticeable expansion in handloom factories from the interwar era. These factories employed most migrant labour, and were recognized through persons who had made money in the relatively new deals in cloth, yarn, dyes, jari, or silk. They usually used improved apparatus. And they concentrated in biggest textile cities of western India. Capital and labour involved in the handloom industry became increasingly mobile. There was migration from rural areas towards new points of deal, and towards the railways and spinning mills. The mainly significant instance is a migration into textile cities in western India such since Sholapur, Malegaon, Bhiwandi, Burhanpur and Surat. The weavers came from depressed or overpopulated areas like eastern Uttar Pradesh and the Hyderabad state.

Several new kinds of invention in handloom weaving became accessible for wide usage in the 20th century, mainly due to the attempts of provincial governments in popularizing these instruments. It will not be wrong to say that this was the only significant instance of government policy in promotion of traditional and contemporary little-level industry. On the other face, the rising wealth and knowledge of capitalist weavers, rising certainty of their markets, made them more willing to attempt out new apparatus. The traditional loom was set up in a pit dug up in the livelihood room of a weaver's house. The shuttle was thrown through hand crossways the width of the loom. From this organization, there was transform towards:

- The fly-shuttle loom, where the shuttle was moved much faster through ropes and pulleys, and
- A kind of loom mounted on wooden frame.

The frame loom took up much less legroom, could weave longer lengths of yarn, and therefore, became extremely popular with the handloom factories. The systems of preparing warp for the loom also changed. The exploit of a warp beam was popularized, with the effect that longer

lengths of thread could now be woven. Warp preparation was previously a face action of women in weaving localities. This shape of communal labour was replaced through the warping factory. Another biggest instance of technological improvement was the synthetic dyestuff.

A final level in this procedure of endogenous technical transform was the 'power loom' factory. From the frame loom, the thought of a domination-driven frame loom was a extremely little step. Domination-driven looms were constantly being discarded at scrap rates through the mills. Therefore buying such a loom and reconditioning it to fit the weaver's factory shed was not expensive. Relatively well-off weavers started to replace handlooms through power driven looms in products where such a switch was possible. The first such looms in India emerged in handloom cities in relation to the 1900 and were run with fuel oil. They spread much faster from the 1930s when several such cities received electricity. These looms, of course, were run with domination. Through 1940, there were in relation to the 15,000 such looms, few in cotton, and few in silk and rayon. These had been started through persons of handloom backdrop. The ground had therefore been prepared for what was to become in the after that some decades India's main industry. By these changes and by the handloom factory, weaving and processing separated out since tasks, and therefore specialization and division of labour increased through comparison with the household.

Leather

Tanned hides and skins became a biggest export thing in the late 19th century. From the 1870s down to the Great Depression, it remained a biggest export. Thereafter, the export of tanned hides and skins fell, but hides were being used more and more since inputs through regional leather manufactures, and the export of such manufactures began to augment. Today, leather is one of South Asia's mainly significant manufactured exports. Tanning was originally a rural craft, and practiced through clusters who were season-time agricultural labourers. They were extremely lowly placed in the caste hierarchy, and had small bargaining domination in dealing with their largest customers, the peasants. In mainly spaces hides were bartered for grain. But the conditions of the barter were adverse for the suppliers. The grain-share of the leather artisans was much smaller than their share in population. The usual institution in rural tanning was either a single household, or a type of communal labour not ordinarily seen in other crafts. The tanning locality was set a small separately from the largest village where the village was a big one. In this locality, men, women and children worked jointly in pits together owned. The export market concentrated hide deal in Kanpur, Madras, Bombay and Calcutta. And the bigger excellence demanded through foreign buyers of Indian hides encouraged factories in these municipalities owned through hide merchants. These growths weakened the rural barter organization, because every one with hides now wanted to sell it to an

exporter. It also encouraged leather artisans to migrate to the municipalities. They were re-employed there since factory labourers. In the course of this transform, flaying, tanning and leather-production-which were often performed through the similar person formerly-separated out. Division of labour and specialization increased. The old traditions did not totally vanish, but often persisted in the tannery in the shape of direct or indirect hierarchy flanked by workers and supervisors, and a tolerance for poor working circumstances inside the factory. Even, the factory was a new and a freer organization of job.

Labour

One of the mainly fundamental extensive-term tendencies in traditional little-level industry has been the rising employment of hired labour, or the development of a labour market. The tendency was mainly obvious when a rapid development of factories took lay. Little factories grew in four conditions. First, they emerged in cities that received several migrants, such since handloom weaving in Sholapur. Second, factories emerged in industries that were relatively less ability-rigorous, such since tanning of hides and skins. Third, factories emerged in industries that partially mechanized. The fourth circumstance occurred in few skilled crafts of northern India where merchants set up big sheds where master-artisans came with their teams of apprentices to job. Such sheds, though, did not really employ wage labour strictly speaking. Carpet weaving furnished one instance. Migration of artisans is intimately linked with the development of factory labour. From the last quarter of the 19th century, there is record of steady and big-level migration of artisan clusters to industrial cities. Few of them gave up their craft to become common labour. Few entered the mills. Still others only relocated their craft close to sources of raw material and market points. Employment was typically in factories in these cities.

Factories and a visible labour market were not the usual systems however. Elsewhere, the emergence of a labour market was a more gradual and subtle procedure. Since the ability-rigorous industries commercialized, merchants put out job to producers who worked in traditional kinds of relationships. These firms recruited labour without full-fledged hiring. This happened in broadly two methods. Firms by most family labour employed workers from within the family. And masters hired apprentices. The family-firm and domestic labour was usual in the middle of Hindu artisans. The apprenticeship organization was usual in the middle of the Muslim artisans. The latter was mainly clearly visible in the cities of western Uttar Pradesh. These traditional systems tended to weaken and dissolve in the second half of the twentieth century. The decline of households and old-approach apprenticeship suggest that traditional industries in India witnessed a transform from social contract

to unregulated labour market in respect of employing children and women. This procedure is yet to be documented from a historical perspective.

Capital

What were the sources of capital that flowed into the small-level sector? Who were the capitalists investing in this sector?

Source of Capital

Little-level industry in common had small or no get in touch with the formal banking sector. It had extremely small get in touch with even with the informal credit markets. The largest share of working capital fund was deal credit, since it is even today. There is proof that it was easier to raise fixed capital loans in sure cities than in others. Surat, for instance, was a biggest textile centre where employers and traders in the jari industry routinely gave loans to their contractors for purchase of machinery. How universal such practices were and why they occurred in sure cities is not clear.

The Capitalist

The wholesale trader, the raw material importer, and the factory-owner were new kinds of capitalist. In few industries, notably handloom weaving, the capitalists tended to approach from artisan societies. On the other hand, in an industry such as tanning, capitalists came from merchant societies. What determined which backdrop the capitalists would approach from? Three factors were perhaps of importance. First, variations in the stage of skills mattered. In several handicrafts, craftsmanship was a significant resource, and those who possessed such capital could often manage the deal since well. In weaving, such logic worked more than in a relatively unskilled craft such as tanning. Second, whether a craft was export-oriented or house-market oriented mattered. In exportable crafts, the superior level of deal and the nature of the market made working capital and information both scarce possessions. Here merchants had greater manage in excess of manufacture. Third, social hierarchy mattered. For tanners, to either get loans for business or start a new enterprise could be hard in the side of resistance from their upper-caste neighbors. Weavers, on the other hand, did not side such social sanctions.

Associations and Institutions

Communal institutions generally play a number of significant roles in traditional industry. Via such organizations, masters manage the graduation of their apprentices into potential competitors, insiders manage the entry of outsiders, and disagreements in excess of industrial dealings could be kept in check. Further, any business requires credit and insurance, which markets cannot function without either good laws or a lot of trust. Where these markets are undeveloped, trust is often ensured through communal institutions. In medieval Europe, the guild performed few of these functions. In India, guild in the formal sense was rare. Nevertheless, caste and society associations did develop to take care of few of these roles.

PATTERNS OF INDUSTRIALIZATION

Periodization

If we take the nineteenth century and the twentieth century jointly, what result do we obtain for the colonial era since a entire? Was there industrialization, or deindustrialization? Since indicated earlier, there are two separate criteria for measurement of industrial performance: output and employment. Did the share of industrial output augment or decrease compared to the output of agriculture and the service sector? Alternatively, did the share of industrial employment in total employment augment or decrease comparative to the other sectors? The answers to these questions are not sure. It is likely that industry, taking organized and cottage industries jointly, had a lesser share in total employment in 1947 than, say in 1800. On the other hand, both the total product and the industrial product increased several times throughout the era. While no measurement of this is possible we may guess that industry's share in the total product might have been pretty much the similar in 1947 since it was in 1800, after deducting the probable decline of the nineteenth century from the sure rise of the twentieth. And, to take another indicator into consideration, per capita industrial output is sure to have been considerably higher in 1947 than in 1800.

Though, the structural changes that took lay in the economy flanked by 1800 and 1947 are therefore imponderable, that these comparisons are in a sense meaningless. What is relevant is that big-level industry, with which we are concerned here, became a substantial sector in the Indian economy flanked by 1850 and 1947. Furthermore, its development was rapid. After 1900 and before that, however output was not therefore large in itself, the annual rate of its development was quite high. It is so necessary to have few sense of the separate eras by which this industrialization took lay. Broadly speaking, it is possible to distinguish three eras: 1850s-1914, 1914-1939 and 1939-1947. In conditions of products, markets, manufacture centres and the entrepreneurial clusters involved in

industrialization, the era up to 1914 is quite separate from the era that followed the outbreak of the First World War in 1914. Again, sure new characteristics seem with the outbreak of the Second World War, characteristics which are prominent in 1947 and afterwards. There is a sure in excess of-lap in this periodization, nevertheless the distinctions in the time series are meaningful.

1850-1914

The jute and cotton mills emerged in Bengal and Bombay respectively, in course of the 1850s. A little number of coal mines and tea gardens had emerged in Eastern India even before this, the Ranigunj colliery in 1820 and the Assam Tea Company in 1839. The nineteenth century witnessed the virtual monopolization of India's shipping and foreign trade through British firms. As the industries that seem at this time, tea, coal, jute and cotton catered initially to foreign markets. It is not surprising that British expatriate firms in Calcutta and Bombay and a number of companies in London had a predominant attendance in the early industries. The mining and plantation products and light manufactures were typical colonial products; meant mostly for export and not for consumption in the country. In other languages, they created no domestic demand for industrial goods. The new industrial products, moreover, were consumer products rather than capital goods, therefore they did not add to the country's productive industrial capability.

The cotton mills in the Bombay Presidency, however at first occupied in exporting cotton threads to markets in China, slowly extended their operations from the foreign to the home markets, and from spinning yarns to weaving fabrics. It is in this region that Indian enterprise first made its spot. In the middle of the Bombay mill owners, European, Jewish, Parsee, Khoja and Bhatia firms figured prominently since managing mediators, and the Ahmedabad cotton mills were mostly owned through the regional Bania capitalists. In Calcutta on the other hand, an exclusive set of European managing agency houses dominated the intricate of the tea, coal and jute industries that had sprung up in the hinterland of the great colonial port municipality. In the middle of them again, six large expatriate firms acting since managing mediators, namely Andrew Yule & Company, Jardine, Skinner & Company, Bird & Company, Shaw Wallace & Company, Begg Dunlop & Company, and Heilgers & Co. controlled more than half the rupee capital invested in the three industries in 1914: 51 per cent of tea, 57 per cent of jute and 52 per cent of coal. The European managing mediators, who enjoyed the patronage of the British authorities, did not encourage Indian entry in this oligopolistic intricate of industries.

It should be noted that the Tatas of Bombay were producing a small steel in this era, but before 1914 this was not of enough quantity to create much variation to India's industrial capability. Manufacture began in a little method at Jamshedpur in 1911. Overall, the large houses in industry at

the outbreak of the First World War were expatriate British firms based on the colonial port municipalities of Calcutta, Bombay and Madras, and since managing mediators they controlled mining, planting and light manufacturing companies which catered mostly to foreign markets, where their advantage place. Throughout this era, Indian industry received no defense from duties on imported industrial goods. The open Indian economy encouraged imports and exports, and light manufacturers grew under expert oriented European enterprise. There was not much big-level industrial action catering to domestic industrial requires.

1914-1939

At the end of the First World War, the European managing agency homes still dominated business and industry, but, through the end of the Second World War, this power, however yet not at an end, had been shaken. The European power, it has been speculated through India's leading economists such since Amartya Kumar Sen and Amiya Kumar Bagchi, might have been a factor inhibiting balanced and in excess of-all industrial growth. Amartya Sen commented on the early pattern of Indian industrialization: 'It is mainly significant to note that the two manufacturing industries that provided the foundation of the British industrial revolution, namely cotton textiles, and iron and steel, were both urbanized most through Indian and not British industrial enterprises. British enterprise confined itself separately from transport, most to export industries, e.g. tea, coffee, indigo, jute goods and to extractive and trading operations'. Sen speculates that this might have been section of the cause for India's under-growth, and for her failure to achieve an industrial revolution based on the domestic market and rising internal consumption. After 1914, though, Indian industrialization began to happen at a faster pace, and in information since S. Sivasubramonian has pointed out the pace was continued by the First World War, the Great Depression and the Second World War. This was in strong contrast with the setbacks that the advanced industrial countries suffered throughout these measures.

Many new characteristics distinguished India's industrial performance throughout the era 1914-1939 compared to the era before 1914. In the first lay, the new industrial concerns were mostly founded through Indian business societies, especially since Thomas A. Timberg's revise illustrates, through the Marwaris. Second, the new products were still most consumer goods rather than capital goods, and the cotton mills substantially expanded their output of piece goods. For the first time, too, steel, and significant factor in the productive capability of any industrial economy, began to be produced in significant quantity, especially after the Tata Iron and Steel Company's works at Jamshedpur homes tried their hands at other kinds of industry, especially sugar mills and paper mills, which proliferated in the 1930s. Third, the new industrial products catered to the domestic market,

unlike tea and jute, which were sold abroad. Fourth, industry began to move inland from the earlier centres in Calcutta and Bombay.

What is the account for these positive growths? Amiya Bagchi has suggested that the First World War and Great Depression weakened the British economic grip in excess of India. At the similar time, the rising nationalist challenge compelled the colonial government to provide heed to the Indian demand for economic growth. In consequence, the government, for the first time, granted few measure of defense to industry through imposing a protective tariff in excess of imported industrial goods in the 1920s. Imports of industrial goods had been interrupted even before this through the war. Moreover, wartime speculation and profiteering had led to the accumulation of capital in the hands of Indian business societies, and they were now eager to extend their operations from deal and speculation to industry. In these conditions, Indian business homes began investing their accumulated assets in new shapes, especially cotton mills, jute mills, sugar mills and paper mills. They breached the virtual monopoly, which the British expatriate firms had hitherto enjoyed in business and industry. A procedure of industrialization based on import substitution in the domestic market, now protected through tariff, was under method.

1939-1947

Industrialization based on selling consumer goods in the protected domestic market had sure definite limits in a poor country like India. Per capita consumption was low, therefore the scope for profitable investment in things such since cotton piece goods, sugar and paper was also narrow. In such market circumstances, since Amiya Bagchi has pointed out, no industrial revolution could happen; industrial investment would go on only until imports had been substituted, and would hit a ceiling thereafter. There were signs through the late 1930s that this was beginning to occur. Then the Second World War broke out, and a new chapter in Indian industry began. This time again, Indian business homes, such since Tata, Birla, Walchand, JK and Shriram, took the lead. The effects of the war seriously weakened the European managing agencies, which still depended on exports. Through this time a new kind of foreign firm, the multi-national 'India Limiteds', had emerged on the scene, and they sought to capture the potential domestic market for technology rigorous goods. Though, Indian business homes, now much stronger than earlier, began to compete in this field too.

In these conditions, the scope of industrial investment in India widened from the manufacture of consumer goods to the pioneering of capital goods. The extraordinary necessities that arose out of the Second World War, jointly with the machinery requirement of the newly recognized consumer goods industries of the inter war era, generated a profitable market for capital goods industries for the first time. At the similar time, the large Indian business homes began seeking an outlet for their

accumulated profits from the steel, cotton textiles, sugar, paper and construction industries, and were attracted towards the new, technology-rigorous metallurgical, chemical and engineering industries. The technical troubles in setting up the vital and heavy industries were very intricate. Moreover, there were wartime constraints upon imports of essential plant and machinery for setting up the new industries. The plans of the Indian industrial homes and the new multinational clusters were so impeded through several difficulties. Even therefore workshops multiplied. At the beginning of the war there were no more than 600 workshops capable of producing engineering components. Before the war was in excess of, 15,000 engineering workshops were supplying the Government of India's urgent war necessities. Again, the war requires of the Government speeded up the manufacture of aluminum: the Indian Aluminum Company, set up through a joint British-Canadian multinational cluster, and the Aluminum Corporation of India, supervised through the J K Cluster, commenced manufacture in 1943 and 1944 respectively; when independence arrived, the two clusters jointly were producing more than the total pre-war demand for aluminum in India, but demand had increased therefore much in the meanwhile that they could meet only 22.5 per cent of the total demand, the rest being imported from abroad. The home of Tata set up Tata Chemicals in 1940 and the Tata Locomotive and Engineering Company in 1945. The Walchand Cluster set out to build ships, aeroplanes and motor cars throughout the war, but like the Birla Cluster which was also interested in producing motor cars, was obstructed through the Government of India which was also interested in producing motor cars, was obstructed through the Government of India which wanted Indian industry to concentrate on producing munitions of war. Even, the slow structural shift of industry towards the manufacture of heavy chemicals, machine apparatus, aircraft, automobiles, locomotives, ships and other vital and heavy industries began throughout the Second World War and would continue throughout the Five Year Plans.

Enterprise

Industry in colonial India was typically promoted and supervised under the managing agency organization. A private firm would promote a number of joint stock companies and it would hold a contract for managing their operations in the capability of managing agent. Since Blair B. Kling has noted, British expatriate firms in Calcutta, Bombay and Madras were increasingly employed since regional mediators of companies floated in Britain, and through 1914 British managing mediators supervised both the sterling and the rupee companies that dominated the tea, jute and mining companies. This promoted a organization of horizontal concentration. In information, the major of the early managing agencies achieved a concentration of diverse concerns - profitable tea, jute, coal

and steam navigation companies and other interests of proven profitability. The European managing agencies were overall conservative rather than bold, they insisted on sound fund, and were not disposed to venture into new rows such since the chemical and metallurgical industries. They controlled the profitable expert-oriented industries by racially exclusive chambers of commerce such since the Bengal Chamber of Commerce, the Indian Jute Mills Association and the Associated Chambers of Commerce.

Interestingly, the Indian business homes, which were more often than not family firms belonging to the traditional merchant castes and societies, also showed a preference for managing joint stock companies by the managing agency organization, thereby replicating the similar horizontal concentration of industrial interests. The early cotton mills in Bombay and Ahmedabad were promoted in this method; and later on the other industries, even the engineering, metallurgical and chemical industries, were controlled by the parent firm of managing mediators. Overall, Indian managing agency homes showed more initiative than the British expatriate firms did in the first half of the twentieth century, and therefore the greater section of industry slowly shifted from European to Indian administration. The history of two Calcutta managing agency homes, one British and the other Marwari, may be briefly explored here for a relative view. Bird & Company, later Birds, Heilgers & Company, was a leading member of the European dominated Bengal Chambers of Commerce and of ASSOCHAM. Birla Brothers, on the other hand, took a lead in organizing the Indian Chambers of Commerce and the Federation of Indian Chambers of Commerce and Industry in protest against the racial exclusiveness of the European Chambers of Commerce. Incidentally, ASSOCHAM and FICCI appeared in the 1920s since all India bodies opposed to each other, one imperialist in disposition and the other nationalist in sentiment. Bird and Birla, since prominent members of the rival business confederations, offer an motivating contrast.

Bird Heilgers & Co.

Bird Heilgers & Co., beside with Adrew Yule & Co. and Jardine Skinner & Co., constituted the trio of the mainly influential members of the European-dominated Bengal Chambers of Commerce. Since Maria Misra, who has studied the expatriate British firms in India, says, Bird was a 'typical' managing agency firm. Like the other European managing agencies. Bird expanded its concerns until the end of the First World War, and thereafter began to stagnate and then contract. Founded in 1860s Bird & Company was originally a firm of labour contractors to the East Indian Railways and other railway companies. In the 1870s it lost these lucrative labour contracts to competitors, and shifted into new concerns; coal mines in the 1870s and 1880s, jute mills in the 1890s, and paper mills in the 1900s. The firm expanded rapidly therefore that the outbreak of the

First World War, it controlled the main block of investment in jute and coal in India. In 1913 it was the managing agent for nine jute mill companies, three coal companies, one paper mill company, a little engineering works, and was occupied in export of raw jute and raw cotton; besides, it owned an insurance company. European managing agencies were all heavily involved in foreign deal alongside the export-oriented industries and Bird's special row was export of raw jute. F.W. Heilgers, another European managing agency with smaller interests in jute and coal and a controlling interest in the Titagarh Paper Mill, merged with Bird in 1917. The combined homes and their companies had a capital of Rs. 20 crores, revenue of Rs. 3 crores and employees numbering in excess of a hundred thousands. Throughout the First World War and immediately after, Bird, Heilgers & Company floated a number of new concerns, especially light engineering companies, but these 'war babies' soon collapsed in the depression that followed the post-war boom, and thereafter, the firm lost its spirit of adventure. At the end of the war, it had intended the main steel works in Asia, the United Steel Corporation of Asia Limited, but it never got approximately to floating it. The losses Bird Heilgers suffered, amounting to Rs. 1.25 crore, made them wary of ventures beyond the firm's normal experience, and henceforth disposed them in favour of 'sound' concerns such since jute mills. Even there a shock awaited them: 'Indians are determined to get into our industry', exclaimed the head of the firm Sir Edward Benthall, since no less than seven Indian jute mills, led and encouraged through G.D. Birla, broke into the European monopoly. Since its Indian competitors expanded their concerns in new meadows such since sugar, paper, metallurgy, chemicals and engineering throughout the 20s, 30s and 40s. Bird Heilgers drew back into its 'core', jute mills and deal overshadowing everything else, after that the coal mines, Titagarh coming not far behind and its other manufactures falling behind the burgeoning concerns of the Indian managing agencies that rose from the bazaar.

Birla Brothers

Like Bird Heilgers & Co., Birla Brothers Limited was also an industrial managing agency, and like Bird Heilgers, Birla Brothers. was at the similar time involved in deal heavily. While Bird Heilgers stagnated after 1919, Birla Brothers, shaped in 1919, expanded rapidly. The Marwari firm, with a capital of Rs. 50 lakhs at the start, grew out of earlier family concerns, namely, Shivnarain Baldeodas, Baldeodas Jugalkishore, and Ghanshyamdas Murlidhar. Shivnarain and Baldeodas was respectively the grandfather and father of Ghanshyamdas, and Jugalkishor was G.D.'s elder brother. The family rose out of an obscure location in the Bazaar. The first recognized ancestor, Seth Shivnarain's father Shobharam, was the clerk of a Marwari firm of Hyderabad. He was posted in the desert city of Nawalgarh in Rajasthan on a salary of Rs. 10. Shivnarain, who for his section had a

retail shop in Pilani, migrated to Bombay in 1857 and there he became a seth speculating in opium, in partnership with his son Baldeodas. 'Shivnarain Baldeodas' shifted its headquarters to Calcutta throughout the plague epidemic of 1896 in Bombay, its net worth being then Rs. 1.5 lakh. In Calcutta, the Birla firm, under a new partnership described 'Baldeodas Jugalkishore', speculated in opium, and then began trading in opium, silver grain, linseed, Manchester cloth, and Japanese cloth. The Birla family became a member of a profitable opium syndicate of Calcutta in 1911. In that year, G.D. Birla began trading on his own explanation, since a broker in raw jute and gunny bags to Bird Heilgers, Andrew Yule, Jardine Skinner and other large European homes.

With the outbreak of the First World War, the Birlas reputedly grew from a party worth Rs. 20 lakhs to a party worth Rs. 80 lakhs, therefore providing themselves with the capital to enter industry under G.D. Birla's leadership. The wartime profits they made were derived principally from two sources; speculations on silver prices and deal in raw jute, jute fabrics and jute shares. At the end of the war, the Birlas were second only to the European firm of Ralli Brothers in the export of raw jute. In 1991 the Birla family concerns were consolidated under G.D. Birla since the contemporary firm of Birla Brothers, which, while carrying on deal, at the similar time thrust into the jute mill industry, breaking a tenacious European monopoly. Birla Jute Manufacturing Company started manufacture in 1920, and in the similar year, a cotton mill was acquired in Delhi. In the 1930's the newly protected domestic market encouraged G.D. Birla to set up upcountry sugar mills and paper mills: Bharat Sugar Mill Ltd. in Saran, Bihar, New Swadeshi Sugar Mills Ltd. in Champaran, Bihar, Awadh Sugar Mills Ltd. in Sitapur, Uttar Pradesh, Upper Ganges Sugar Mill Ltd. in Bijnore, Uttar Pradesh. New India Sugar Mills Ltd. in Darbhanga, Bihar, Orient Paper Mills Ltd. in Brajnagar, Orissa, and Sirpur Paper Mills Ltd. in Hyderabad. Finally the Birla Cluster extended their operations from the production of consumer's goods to the manufacture of capital goods. On the eve of the Second World War G.D. Birla pioneered the Textile Machinery Corporation with a paid up capital of Rs. 1 crore, and then in 1942 he floated the Hindustan Motors Limited with a paid up capital of Rs. 4.96 crores. Actual manufacture of textile machinery, though, began because of wartime difficulties, only in 1946, and motor cars were not assembled, because of the similar cause, before 1947. On the eve of independence, the share capital of the Birla Cluster amounted to Rs. 24.8 crores.

At the end of the Second World War and especially after Independence, the European managing agencies passed one through one into the manage of Indian managing agencies, especially large Marwari homes. In the technologically more intricate industries that now sprang up, there were tie-up arrangements flanked by the Indian managing agencies and the large multi-national

companies, which entered the field. Self-governing India inherited from the colonial era a strong indigenous business class.

Why No Take-Off

Soon after independence, the economic historian Daniel Thorner noted that despite few attainments, India's growth under the British had been 'strangely lopsided.' There was no industrial revolution and no 'take-off' into continued economic growth. The question is why a take-off did not happen? One view blames Indian backwardness; the opposite view blames British policy in India. David Morris, who belongs to the former school of idea, emphasizes the technical backwardness of the Indian economic building, and he elaborates on how this prevented continued investment in big-level industry. Amiya Kumar Bagchi, who belongs to the latter school of idea, is of the opinion that this backwardness was produced through colonial economic policies, and he highlights the throttling organization of monopoly that held up industrialization in the high noon of empire. There is no consensus in the middle of economic historians in relation to the causes behind India's failure to achieve an industrial revolution.

Statistical research has never recognized one point. In the era 1900-1947, the rate of development of big-level industry was relatively high; but this development began from a low stage. In information, there was not much organized industry in 1900, and the economy was overwhelmingly agrarian. Even the faster rate of industrial development, so, could not change the economy from an agricultural to an industrial one. The performance of agriculture, since S. Sivasubramanian's statistical series on national income recognized was poor flanked by 1900-1947, and this pulled down the rate of in excess of-all economic development despite a considerable degree of industrialization. Moreover, artisan industries expanded after 1900, but at a lower rate than factory industries. Industry grew, but it did not change agriculture or the economy.

TECHNOLOGY, SCIENCE AND EMPIRE

Colonialism and Scientific Knowledge

Few resurgent nations, now ruling the waves, came in and by their trading companies chalked out big regions. Their sails, their guns, their training were considerably dissimilar. They had 'new' knowledge behind them. In the midst of political intrigues, plunder and numerous regional wars, few officials of the East India Company could think of establishing a forum for knowledge and a college

at their fort. Trained surveyors marched beside with their armies. The British could succeed against their numerically larger adversaries mainly because they possessed a thorough and scientific knowledge of the country by which they marched. In 1760s Rennell surveyed Bengal and later Kelly surveyed the Caratic area. Their charts were of immense value for both military operations and revenue settlements. Survey and expansion moved face through face. Every boat that touched the Indian shores had a medical man on board. Trained in the scientific seminaries of Scotland and Northern Europe, he would be recognized since surgeon-naturalist: and true to his training, in his spare time, he would seem for and statement on the topography, minerals, flora, fauna and people of his region. They were scientific soldiers who willingly and promptly extended the help of 'new' knowledge to the procedure of colonial expansion and consolidation.

Therefore was born the phenomenon of 'colonial science'. In few methods, it did symbolize an advance in excess of pre-colonial science. It was distant more systematic, methodical, penetrative and pervasive. It involved everything: science, politics, commerce, military operations, management, etc. In any case it is now widely acknowledged that techno-scientific growths and colonial expansion had closer links. These links beg sure questions. Can there be an imperialist face to the core of natural knowledge? What was the form that 'contemporary' and 'universal' science took in a colony? What was the colonial posture in science and to what extent were scientific discourses used to achieve political and cultural goals? No less significant is to glean how the recipient civilization sought to suitable or redefine the metropolitan ideology of science. How was the indigenous scientific custom perceived? How did the regional people react to the introduction of 'new' 'knowledge and new apparatus? Was a synthesis possible? Finally, could the integration of technical and scientific custom have taken lay since section of the natural development of the Indian community had colonization not intervened?

Clear answers are hard to effort, for colonialism was no monolith and it left many facts and questions open to interpretation in diverse methods. Yet one thing is sure, colonial science lacked sovereignty. Its contours were of course drawn on the colonial terrain, but it enjoyed a rather limited autonomy which was further reduced since the colonial grip tightened. Many colonial scientists felt uncomfortable, yet they had to perform a dual role-to serve the colonial state and to serve science. This state claimed superiority in conditions of building, domination, race, etc. Science claimed superiority in conditions of knowledge and inter alia helped the colonial state dismiss 'other' epistemologies. Both needed each other and became mutually dependent.

Dual Mandate

Since the Company rule in India owed its origin primarily to mercantilist behaviors, the notion of 'science for profit' creates an early appearance. Yet, in the early level, the colonial scientists had more freedom and flexibility. There were several difficulties but also enormous opportunities to find and sight new things. Support from metropolitan scientists added to their confidence and their agenda was not entirely derivative. They did enjoy a sure amount of autonomy and they too convinced metropolitan discourses. Richard Grove has shown that the thought of environmental conservation came from the colonies, and colonial planters, botanists and foresters contributed a great trade to the initiation and maturation of conservation debates in the metropolitan circles. Moreover, the extremely concept of a state scientist appeared in the colonies and this illustrates how aware the trading companies, who ran the colonial business, were of the importance of scientific explorations. A knowledge of the regional terrain, regional possessions, traditions and customs was basic for the founding of a colonial state. The procedure of acquiring this knowledge was not an simple one; approximately insurmountable physical and conceptual troubles came in the method.

The early colonizers in India realized that they had to tread carefully. The state they sought to set up had to adapt to, and yet be considerably dissimilar from, the pre-colonial buildings of domination. In order to legitimize their own rule, they first had to delegitimize many pre-colonial buildings and texts. For this, the condemnation of the immediate past was measured necessary. Indians were declared unscientific, superstitious and resistant to transform; India was 'recognized with dirt and disease'. Travellers, scholars and officials of both the Orientalist and Anglicist diversity subscribed to this view. William Jones, the foremost Orientalist, declared that in scientific accomplishments the Asiatics were 'mere children' when compared with the Europeans. Therefore was recognized a paternalistic Raj which would be caring and dismissive at the similar time. It was to be based on claims to not only larger musketery, but to a larger knowledge since well. This sense of superiority came from western discourse on rationality and progress, and was promptly used to denounce whatever scientific knowledge e.g. in astronomy and medicine the Indians could boast of. Yet this denunciation was not total. Many early colonial scholars showed respect for sure indigenous scientific customs and techniques.

They wanted western knowledge to permeate gradually and reason gradual displacement. These colonial scientists tried their hand in many meadows simultaneously and were in information botanists, geologists, zoologists, physicists, chemists, geographers and educators-all rolled into one. For instance, while seeking lectureship at the Calcutta Medical College, West Bengal, O' Shaughnessy offered not only to teach chemistry and experiment with medical plants but also to

provide practical instructions to non-medical since well since Indian and European students, on the chemical arts of dyeing, bleaching, calico-printing, distilling, sugar-refining, melting of ores and production of drugs'. This had its positive since well since negative points. Since data-gatherers they had no peers; but for analysis and recognition, they had to depend on the metropolitan scientific civilization whose offshoots they were and from which they drew sustenance.

Organizational Imperatives

An impressive institutionalization alone could have consolidated the gains that accrued from the exploration. It may be motivating to observe how and in what shape a scrupulous scientific institution at a scrupulous historical juncture worked for the then existing politico-economic building. Geological and survey department, for example, received the maximum patronage from the government. After that ranked botany. Agriculture remained a Cinderella till the 1890s, however a some private agricultural and horticultural civilizations did attempt to provide it a commercial drift. Private scientific bodies were often more vigorous than the government machinery itself. In the middle of them can be counted the Asiatic Community of Bengal, the Bombay Branch of the Royal Asiatic Community and the medical and physical civilizations. in Presidency cities. Changing economic requires, the proliferation of scientific establishments, and the rising concern shown for them through the educated Indians made the government to think in conditions of an apex body to regulate scientific affairs in India. In 1898, at the example of the House Government, the Royal Community shaped an Indian Advisory Committee, and in 1902 the Government of India recognized a Board of Scientific Advice. These experiments unluckily generated more heat than light and ended in a whimper.

Still these organizations had brought the government, science, and economic consideration into a secure connection. The economic interest-cluster desired research to gain immediate and practical ends. The economic ramification can well be spotted in the development of industries fed on applied science, viz. coal, cotton, jute, tea, etc. One may argue that scientific growth in British India should be treated since individual romances with natural history without linking them with the political economy of the time. But where would be natural sciences without industry and commerce? The light of science had certainly been dimmed through the smoke of commercialism.

Excessive government manage of scientific undertakings often hampered the logical growth of contemporary science in India. The government would always goad the several institutions to job only beside economically beneficial rows. Mainly of them buckled under this pressure. George Watt, for instance, was asked in 1903 to prepare an abridged volume of his well-known *Dictionary of the*

Economic Products of India. But he was not given a free hand in selecting the products. He was asked to contain only those which were of commercial value. The result was that instead of a Dictionary of Economic Products, he produced a Manual of Commercial Products. Colonial researchers often establish themselves unable to distinguish flanked by 'vital' research and 'applied' research. This was particularly true of the geologist and botanists. Their dilemma was fairly acute. On top of it, however the colonial government would always recognize the importance of science, it would never approve of 'any big outlay upon them which necessity, though useful in its remote results, be immediately unremunerative'. Few of the specialists felt slighted. A some received a great trade of attention while others none; for instance, big sums were spent on geological explorations and nothing on the examination of agricultural soils. George Watt wrote to Thiselton-Dyer that its 'absurd to suppose that the Geology of India needs fourteen European experts, while the Agriculture and the Industries of India necessity be content with two or three expert investigators.'

A significant characteristic of this stage is the comparative neglect of medical and zoological sciences and this is in sharp contrast to superior investments in botanical, geological and geographical surveys from which the British hoped to get direct and substantial economic and military advantages, while medical or zoological sciences did not hold such promises. Western medical classes, for example, were started in 1822, but it took another thirty years to produce the first exhaustive compilation of information on tropical disease in India. Charles Morehead brought out in 1856 *Clinical Researches on Disease in India* in two volumes. The treatment and revise of tropical diseases was undertaken through individuals who were separated both geographically and professionally and therefore, naturally, a constant body of knowledge failed to develop. This was true for every branch of knowledge.

Another significant characteristic is the approximately total absence of pure or theoretical research. Research behaviors in science like physics and chemistry which had through then reached 'a professional level' in Europe, were hardly noticeable in India. In the *Centenary Review of the Asiatic Community*, P.N. Bose apologetically wrote: 'Our chapter of chemistry at the Asiatic Community is close to being since brief since the proverbial chapter on Snakes in Ireland.' Till the advent of P.C. Ray, only one chemical paper had emerged through A. Pedler on the volatility of few of the compounds of mercury. There were chemical analyzers in every province but their occupation was confined only to medico-legal cases and the inspection of government stores. India was establish appropriate only for field research. She was in information used since a 'huge storehouse' with exotic diversities of flora, fauna and minerals which were to flood the European laboratories for several years to approach. The real research was therefore to be done in the metropolis. India could get only ancillary elements. And this happened in a century when England itself was undergoing a

stage of transition wherein professional scientists, the government and industrialists who understood the full potentialities of science, were all attempting the extremely hard task of integrating science into the English government, industry and education. In India the story was, though, dissimilar. Here scientific explorations brought the government, science and economic use into a secure connection. But the Indians and India's interests were left mainly in the cold.

Technology, Empire and Economic Development

Technical changes happen in every community. But the parameters of growth are determined through the pace with which technical changes take lay in a scrupulous community and its ramifications. In pre-British India, the procedure was definitely slow. Although not primitive, it certainly was no match to what was then happening in Europe. A European thinker Max Weber marvelled at how the Indians had perfected the 'technology of contemplation', but faulted them on material technology. Why, it is often asked, did India not generate these contemporary technologies, and why was it sometimes slow in their absorption? It is easier to inquire such questions than to answer them. Did British colonization accelerate India's 'fall'? Or did the British attendance, though inadvertently and lacking in foresight, prepare what became in Indian hands a basic foundation for later economic, scientific, and technical take off? If therefore, how was this supervised, and what conclusions may be drawn? Such questions call for an emphasis on structural and technical factors, to take their lay alongside the political, administrative and cultural literature.

Civilian officials were concerned in relation to the customs and traditions and did not wish to unsettle them for fear of a revolt. But technological men like engineers were not enamored through such thoughts. They were less interested in 'regional knowledge and practices'. Their technological discourse was universal. Thorough professionals who they were, their real concern were to ensure the mainly efficient exploit of nature in the service of the state. In the middle of the new technologies of the Victorian period which made waves in India were the steamship, exotic seeds, the telegraph, and of course, the railway. In the industrial sector, in order to uphold commercial advantage, British legislation mainly discouraged technical transform in India. Failure, it looks, can be attributed either to colonialism, the retention of an archaic civilization, the changing nature of the technical push, or to few combination of these factors. Whether it is the railways or any other technology project the disadvantages accruing from the loss of sovereignty are well manifest in their internal workings. They remained enclaves. Technology transfer is a deliberate deliverance. What colonial India saw was a cultural since well since an economic syndrome which contained within itself an complex interplay of 'colonial' penetration, 'native' resistance and response. Caste did not act since a barrier.

Yet colonialism and the 'technical imperatives of the nineteenth century' collaborated to ensure India's comparative technical backwardness.

In short, India's burgeoning commercialisation was not complemented or followed through industrialization. Formalized courses were there, but no stimulus to innovation. A factory organization did emerge, but industrial laboratory came only on the eve of independence. For India to industrialize, by applied science, there had to be structural incentives to invest and innovate. But these could not approach from 'within', since the 'within' had lost its sovereignty. The nascent Indian bourgeoisie could not produce heavy capital goods on a weak and dependent technical foundation. They faced formidable troubles arising from the absence of essential machinery, know-how, and trained personnel. The 'token' industrialization that did take lay in sure sectors had no 'multiplier' effect on the industrialization of the colonial economy since a entire.

Why Science Education

In the educational scheme, science was never given a high priority. The character of 1813 described for the introduction and promotion of knowledge of the science in the middle of the inhabitants of British India. But it remained a pious wish. Moreover, it gave no indication of which organization of science, indigenous or European, was to be preferred. In 1835, Thomas Babington Macaulay not only succeeded in creation a foreign word the medium of instruction, his personal distaste for science led to a curriculum which was purely literary. The entry of science was therefore delayed. A some medical and engineering colleges were opened but they were meant mainly to supply assistant surgeons, hospital-assistants, overseers, etc. The curriculum, the instruments, and the extremely organisation of these colleges were geared to meet the necessities of only subordinate services. Later in 1870, the Indian universities began to illustrate few inclination towards science education. In 1875, the Madras University decided to analyze its matriculation candidates in geography and elementary physics in lay of British History. Bombay was the first to grant degrees in science, Calcutta University divided its B.A. into two branches - 'A' course, 'B' course.

Even this slow development of science education was beset with several troubles. First was the extremely, aim and character of educational policy itself i.e. 'character formation'. K.M.Chatfield, Principal of Elphinstone College, admitted that the organization of university professorship would indeed foster the growth of knowledge by research but argued that not this but 'the education of youth was the aim of the organization'. For this purpose a liberal-literary education was establish more appropriate. The second problem was the shortage of finances and its unequal sharing. In 1900 the four colleges of Patna, Cuttack, Hooghly, and Krishnagar cost the government

Rs.55,441 while the Presidency College of Calcutta claimed Rs.1,14,702. Another problem was that the authorities in India looked for western models. C.Benson of Saidapet Agricultural College, for instance, justified biggest emphasis on theoretical instruction there on the ground that Professor Jorgensen had done the similar thing for the Royal Agriculture College at Copenhagen. But they seldom included their advantages, and in the name of adapting to the regional circumstances often made a mess of them. In approximately every field of action, British organizations were looked upon since the ideal models. But they would not grant anything like “higher shape of scientific or technological education”. What India got was few sort of a hybrid emerging out of a careless fusion flanked by industrial and technological education. What is more, the adoption of English since the sole medium of instruction in science rather hampered its percolation to the lower classes.

The British educational experiments in India have often been severely criticized. Education was no doubt an significant segment of the entire colonial enterprise and was definitely meant. to strengthen it. Gauri Viswanathan calls it a ‘mask of conquest’ and Susanta Goonatilake believes it a tool for ‘cultural blanketing’. Are these sweeping judgments? S.Ambirajan raises the significant question since to whether the organization was intended and erected for presently this aim or whether there were other forces that brought in relation to the similar results. He considers that chance, more than foresight, determined the future. There is also a bureaucratic momentum, which propels organizations beside a path, however not necessarily the one charted through the initiators. ‘Chance’ and ‘bureaucratic momentum’ are valid arguments if we do not lose sight of the information that it was a colonial bureaucracy. This bureaucracy ensured the primacy of colonial necessities. Engineering colleges lived for the Public Works Department and were described ‘civil’ engineering colleges. The nature and pattern of engineering education in India differed from that of Britain. Whereas in England it evolved from below and slowly became a section of the University curriculum. The motive and situation differed greatly.

In Europe, engineering education was urbanized in order to facilitate the procedure of industrialization. In India there was no such imperative. Here hopes were pinned not on ‘material’ but on ‘moral’ uplift. In information, the entire aim of colonial education was ‘moral growth ‘and’ character formation’. The ‘native’ character was measured defective, immoral and superstitious. The ‘new’ education armed with western rationality was supposed to correct it. But the Public Works Department (PWD)-oriented education could not have achieved this.

Technical Ramifications

The latter half of the nineteenth century was a era of consolidation and organization structure. These organizations not only 'imported' knowledge; they imparted and, too few extent, generated knowledge. But could they diffuse new knowledge and to what extent? Telegraphs and railways were the high-technology regions in those days. Telegraph operations remained a purely governmental exercise, while the railways, raised on guaranteed profits, depended on wholesale import from Britain. Even the repair-cum-manufacturing establishments, like the Jamalpur workshop, proved to be islands in themselves. No technical spin-off could emerge, much less galvanize, the neighborhood of a railway colony. Mechanical engineering came later and remained a poor dismal cousin of engineering in the public works department.

Irrigation and later hydraulic engineering definitely benefited from the big irrigation works. The Roorkee Engineering College was closely connected to Proby Tomas Cautley's Ganges canal. Whether the generation or refinement of irrigation technology at Roorkee or Guindy reduced or increased the economic dependency on India is arguable and a matter of many statistical debates. These enterprises were simply technology projects with specific aims, and not technology systems with a wider canvas and greater results. A geographical relocation of technology was possible and was achieved, but a cultural diffusion of technology is therefore dissimilar and much more intricate. Moreover, the professional colleges were therefore controlled that they could not induce transform at perceptible or a faster pace. The medium of instruction was also a factor to be measured. In Japan, the Japanese had insisted on own word since a medium of instruction. The result was that contemporary knowledge and the scientific spirit could percolate down to the masses. In India, colonial education widened the gulf and emphasised the age-old divide. Even in government organizations, development was kept under a self-regulatory check. The Tokyo Engineering College was recognized in 1873, much later than the Engineering College at Roorkee, and through 1903 it had a staff of 24 professors, 24 assistant professors and 22 lecturers. The Massachusetts Institute of Technology was recognized in 1865 and through 1906 it had 306 teachers. On the other hand, Roorkee, even after hundred years of subsistence, had only 3 professors, 6 assistant professors and 12 lecturers. The inference is easy. Since D. R. Headrick points out, colonial rulers educated their subjects only up to a point. Beyond that point, they withheld the civilization of technology.

Indian Response

Indian response can best be understood in conditions of a cultural encounter that was initially disturbing, even agonizing. Slowly the colonizer-colonized connection stabilized and the recipients started examining what was livelihood and what was dead in their organization, and, under the new conditions, what to accept and what not. The encounter raised questions of attitude, an uneasy acceptance, a quest for identity and, finally, the seeds of decolonization. There was definitely an urge to comprehend the contemporary knowledge and apparatus that the colonizers had brought, and to assimilate them. This urge came from within, and the acculturative power of European idea and Christian liberalism strengthened it. Even the commercial class realized the importance of new knowledge. Leading Bombay merchants like Manekji Curserjee and Jagannath Sunkersett viewed Western arts and sciences since a commodity, easily transported and, when acquired, easily adopted for exploit like any other material goods. The new interlocutors did put a premium on alien rule, and in a sense idolized it and supported downward filtration.

They had to do this the more therefore because initially they could think of no other effective method to dealing with the serious ills of their community. They experienced a dual alienation from the traditional and later from the colonial life and organization. To few extent they could expect the distortions the colonial medium was likely to produce. But the realization was slow and diffident. Possibly this explains why Rommohun Roy looked to both Vedanta and the West. Ishwarchand Vidyasagar, an admirer of Western knowledge, wanted Indian students to revise their own 'false organization' also. Bal Shastri Jambhekar commenced his science popularization behaviors in both Marathi and English and Master Ramchandra began his mathematical Treatise from a twelfth-century Indian text, Bhaskar's Bij-Ganita. The soil was being prepared for cross-fertilization, and the seed was a crossbreed.

Rommohun Roy and Vidyasagar were great social reformers. Unlike them, Bal Shastri Jambhekar and Master Ramchandra concentrated in mathematics teaching and science popularization. Jambhekar was the first Indian to become a professor of mathematics and astronomy. He taught at Elphinstone College, Bombay, and in the middle of his early pupils was Dadabhai Naoroji, the doyen of Indian nationalism. Jambhekar worked for science studying by the regional Marathi word. In 1836 he published the Marathi translation of a well recognized English job on Mathematical Geography, to which he added an 'Essay on the organization of Bhaskarcharya'. In 1942 he published in Marathi two books, *The Theory of Equations* and *The Differential and Integral Calculus*. A small later in Delhi, Master Ramachandra tried to revive the Indian spirit of algebra therefore since to resuscitate 'the native disposition'. Bhasker was general to both. To begin with one's own heritage was quite natural. Indeed, this was the strategy advocated through the orient lists'

since well. L. Wilkinson a British Resident and an astronomer at the court of Rewa, establish Bhaskara's works 'beyond all comparison, the best means of promoting the reason of education, culture, and truth amongst our Hindu subjects. What can be more flattering to the vanity of the Hindu nation, than to see their own great and revered masters quoted through us with respect, to prove and show the truths we propound', L. Wilkinson, 'On the exploit of the Sidhantas in the job of native education', *Journal of the Asiatic Community of Bengal*, 1834, vol. 3, 504-19. Ramchandra, though, moved ahead and included the post Bhaskara 'advances' in his Treatise on the *Troubles of Maxima and Minima*, published in 1850. His thought was to bridge the gap. But the attempts aborted. An alien government confident of its epistemic superiority, would not allow the transplantation of contemporary science on an indigenous foundation.

Another motivating dimension of these 'early stirrings' was that both Jambhekar and Ramchandra took to science popularization by the Indian words. Both worked for their respective Native Education Community and published journals. Both were avid translation enthusiasts. In a meeting organized through the Delhi Education Community on 'Studying European Knowledge by Translations' on 12 November 1867, an English priest argued that no community had gained knowledge by translations, to which Ramachandra replied that Europe was enriched by translations since the centres of science had shifted from Greeks to Muslims. What Ramchandra almost certainly did not realize then was that the translations in the Arab and the Mediterranean civilization region were accompanied and often preceded through original research. The subsequent years were to prove the priest more correct, since the translation behaviors of Master Ramchandra and his more illustrious modern Sir Syed Ahmad Khan were to end on a feeble note.

The mainly significant feature of mid-nineteenth century Indian thinking was an unprecedented emphasis on cultural synthesis. Akshay Kumar Dutt, a modern crusader, worked for 'Indianising Western Science', Numerous journals of the era claimed the similar objective. The thought of a cultural synthesis gave them the best of both worlds. First it enabled them to absorb civilization shock and also promised a possible opportunity to transcend the barriers imposed through colonialism. Moreover, it also fitted well with the dominant Hindu doctrine of epistemological pluralism. Therefore the clamor for cultural synthesis grew. Sir Francis Bacon and Auguste Comte impressed the Indian mind. But how to integrate their experimental way and rationality into the Hindu "science of spirit." This, the regional thinkers were not clear in relation to the. They pursued a great diversity of strategies – imitation, translation, assimilation, 'distanced' appreciation, and even retreat to separation – but without much success. The search for synthesis remained, elusive, yet it did accelerate the quest for identity.

Throughout 1860-80 a number of cultural essayists tried to articulate contemporary scientific rationality in conditions of indigenous customs and necessities. Bankimchandra, a Bengali novelist of high intellect and repute, for example, wrote on *Vijnan Rahasya*, which emerged in *Banga Darshan* throughout 1865-70. With the help of John Tyndall's *Dust and Disease* he wrote *Dhula*, and T.H. Huxley's *Place Sermons* was utilized in *Jaivonik*. Bhartendu Harishchandra, a extremely influential Hindi laureate, was also impressed through the growths in machinery and he associated them with a sure type of attitude and activities. There is a number of direct reference to Comte in his literary since well since discursive writings. These forays sometimes led Bankimchandra to return to sure ancient theological concepts. In 1873 he rejected the Hindu concept of Trinity since an aberration, but in 1875 he establishes it secure to Darwin's theory of natural selection. Hindu spiritualism finally sucked up several who ventured to travel outside its orbit. Islamic progressives faced a same situation and sometimes fared worse. In 1877 one Maulvi Ubaidullah wrote:

- The Mahomedans with their philosophy are exactly in the location of the school men of Europe, that is they have travelled half method towards actual culture: consequently when the contemporary reformed philosophy of Europe once gains an entrance to their minds, they will be able to create more rapid progress than their neighbor Hindoos. In the middle of us a Newtonized Avicenna or a Copernicized Averroes may spring up, who may be able to criticize even sons of Sina and Rushd.

The lure of inching towards 'actual culture' and the hope of producing 'a Newtonized Avicenna or a Copernicized Averroes' present a curious mix of both self-criticism and a yearning for transform. Two things are striking in any explanation of this era. First, it was an age of translations. The numerous schoolbook civilizations and the scientific civilizations were simply translation civilizations. Translations, no doubt, were extremely significant and necessity has helped popularize sure scientific notions. But a biggest lacuna was that they were not accompanied, except for in one or two cases, through any research. They remained mere translations, secondary, superficial and of limited value. In earlier transfers of knowledge, for instance from Greek to Arabic, research 'preceded' or at least accompanied translations. This was not therefore with 'colonial transfers' at least in the case of India. It was at best a 'trial' transfer and in this sense one could speak of the disintegration, not of the integration of knowledge. Yet the penchant for translations necessity has done few good. Following Ballantyne's attempts, Rajendralal Mitra prepared 'a scheme for rendering European scientific conditions in the vernacular'. In the vernaculars of India 'untrammelled through any existing scientific literature' he could see the possibility 'to close something thoroughly

national and perfect.' With limited and defective means his intentions, though sound, were to remain utopian.

The second significant aspect, of course, is the magnetic pull of custom. In a subtle method the colonizers themselves promoted this through heaping occasional praises on 'the spirit of the East', and 'the Hindu Technology of Contemplation', etc. The Indians were shown since a larger culture in spiritual matters. This was few, however poor, compensation for the loss of sovereignty. Indians themselves seemed to enjoy this distinction and it looks that Max Muller was discussed more than Charles Darwin. The positivists and the Brahmos accentuated the importance of cause and observation, however their cause was not without God and was mixed with a heavy dose of moral and spiritual teaching. In any case, contemporary science was not seen since an alien import. Darwinism, for example, was imported readily and the theological issues at its heart did not reason a ripple in India. The new paradigms in science were quickly carried and numerous popular articles traced the seeds of contemporary advancement in ancient texts. How to characterize such arguments? Were they exercises in revivalism or revitalization of cultural self-defense or self-assertion? It was possibly a combination of both a delicate balancing act which promised a semblance of identity in an age of intellectual torpor and crisis. The theme of the identity of the colonized on its own conditions also contained the seeds of decolonization.

An imperial rationalist discourse showed Indians how rationalism could be turned against the Europeans themselves. Rationalism was seen since something inherent in human nature rather than a European 'specialty' and since a spot of progress self-governing from Europeanization. Slowly colonialism came to be viewed since a cultural invasion of legroom, to be ended, neutralized and rolled back.

From Dependence to Independence

One of the first to realize the must of re-articulating science in national conditions was Mahendra Lal Sircar. In 1869 he wrote an article 'On the desirability of a national Organization for the farming of sciences through the natives of India'. This title is very significant. He argued against the prevailing contention that the Hindu mind was metaphysical, and described for the farming of the sciences through 'original' research. He wrote, 'We want an Organization which will combine the character, the scope and substances of the Royal Organization of London and of the British Association for the Advancement of Science', and then added, 'I want freedom for this Organization. I want it to be entirely under our own administration and manage. I want it to be solely native and purely national'. In April, 1875, *Bharatvarshiya Vigyan Sabha* was shaped. Its substances were:

- To talk about science since a subject through instituting a Community at Calcutta, which would have branches in other sections of India; and
- To educate the people of India in several scientific subjects and to publish all the ancient Indian tracts relating to science.

In 1876, after a great trade of attempt and controversy, the Indian Association for Farming of Science was inaugurated in Calcutta. This event was no less significant than the establishment, nine years later, of the Indian National Congress, a political forum that was to spearhead the national movement. The Association was a cultural challenge and symbolized the determination of a hurt psyche to assert and stand on its own in an region that shaped the kernel of Western superiority. The Swadeshi movement provided further impetus. It had two substances:

- The promotion of education beside national rows and under national manage with special reference to the exact sciences and technology;
- The industrialization of the country and the advancement of materialism.

In 1904, all Association for the Advancement of Scientific and Industrial Education of Indians was shaped. The substance was to send qualified students to Europe, America and Japan for learning science-based industries. Since noted earlier, the environment was not conducive to higher studies, much less research. The Indians were allowed only subordinate posts and even those who had distinguished themselves abroad were given less salary than the Europeans of the similar grade and rank. This “apartheid” in science made the Indians reacts strongly. J.C. Bose refused to accept this reduced salary for 3 years. Not only this, till the Royal Community recognised Bose, the College authorities refused him any research facility and measured his job since purely private. J.C.Bose was unorthodox in other methods. He was one of the first in the middle of contemporary scientists to take to interdisciplinary research. He started since a physicist but his interest in electrical responses took him to plant physiology. To fight for a lay in the metropolitan scientific circle was not less hard than fighting against the administrative absurdities of a colonial government. Bose persisted and won. P.C. Ray had also suffered. On his return from England in 1888 with a doctorate in Chemistry, he had to hang approximately for a year and was finally offered a temporary assistant professorship. All by he had to remain in Provisional Service. P.N.Bose preferred to resign when in 1903 he was superseded through T. Holland, who was 10 years junior to him, for the directorship of the Geological Survey.

These troubles were reflected also on the political platform of the country. In its extremely third session, the Indian National Congress took up the question of technological education and as

then every year repeatedly passed settlement on it. K.T. Telang and B.N. Seal pointed out how in the name of technological education the government imparting merely lower shapes of practical were training. The Indian Medical Service was severely criticised. In 1893 it passed a settlement asking the government 'to raise a scientific medical profession in India to the best talent accessible and indigenous talent in scrupulous. Whether it is education, agriculture or mining, the Congress touched many troubles under its wide sweep. The behaviors of this period had two significant characteristics. One was that approximately all the exponents of Swadeshi looked to Japan since a biggest source of inspiration. Japan's emergence since a viable industrial domination and its subsequent military victory in excess of Russia in 1904-5 caught the imagination of a fellow Asiatic, however enslaved, community. Another feature was that sometimes they showed revivalist tendencies. Far past comes in handy for the recovery of a lost self or reassertion of one's identity. This search for moorings made P.N. Bose write *A History of Hindu Culture* in 3 volumes. J.C.Bose gave Sanskrit names to the instruments he had fabricated. Several science popularizes had a tendency to illustrate that whatever was good in western science lived in ancient India also. For instance, Remendrasundar Trivedi's discussion on Darwin ended with Gita. In his posthumous publication *Vichitra Jagat* Trivedi talks of two worlds, one *Vyavharik Jagat*, the other *Pratibhasik Jagat*. The first world he relegates to the communal and demonstrable outcome of direct experience while the other he extols. Then he talks in relation to the one more world that of concept which can never be observed or considered. Later B.K.Sarkar wrote on the Hindu Attainments in Exact Science. They were all for the industrial application of contemporary science but would not like to trespass sure cultural limits. They tried to demonstrate that the Indian ethos and the values of contemporary science were congruent and not poles separately. This was an very hard task. Total colonization had certainly blunted the possibility of evolving perspectives rooted in indigenous intellectual and cultural heritage.

These attempts had nonetheless a galvanizing effect. Taking advantage of the University Act of 1904 which allowed the existing Indian universities to organize teaching and research instead of being merely affiliated teaching bodies, Sir Asutosh Mukherjee took the initiative in establishing a University College of Science in Calcutta. Eminent Scientists such since P.C.Ray, C.V.Raman, S.N.Bose and K.S.Krishnan taught there. This extremely college, although starved financially all by, produced a cluster of physicists and chemists who received international recognition. Through contrast, several government scientific institutions staffed through highly paid Europeans cut a sorry figure. Those who put India on the scientific map of the world were J.C.Bose who studied the molecular phenomenon produced through electricity on livelihood and non-livelihood objects; Ramanujan, an intuitive mathematical genius; P.C.Ray who analysed a number of unusual Indian minerals to find in them few of the missing units in Mendeleef's Periodic Table. C.V.Raman's

research on the scattering of light later won him the Nobel prize in 1930. K.S.Krishnan did theoretical job on the electric resistance of metals. Meghnad Saha contributed to the field of astrophysics, S.N.Bose's collaboration with Einstein led to what is recognized since the Bose-Einstein Equation; D.N. Wadia worked in the field of geology, Birbal Sahni in palaeobotany, P.C.Mahalanobis in Statistics, and S.S.Bhatnagar in Chemistry. Separately from the individual contributions of these scientists, their greatest contribution was in the field of teaching and guiding research. Several of them set up scientific institute, for instance the Bose Institute, National Institute of Science, Indian Academy of Science, Sheila Dar Institute of Soil Science, Birbal Sahni Institute of Palaeobotany, etc. This gave further impetus to scientific action in India. Soon the require for an annual scientific meeting was felt therefore that dissimilar scientific workers during the country might be brought into touch with one another more closely than in the purely official and irregular conferences such since the Sanitary Conference or the Agricultural Conference. Therefore was born the Indian Science Congress in 1914 with objectives same to those of the British Association for the Advancement of Science.

In the wake of the first world war the Government realised that India necessity become more self-reliant scientifically and industrially. The Government appointed an Indian Industrial Commission in 1916 to analyze steps that might be taken to lessen India's scientific and industrial dependence on Britain. The scope of the resulting recommendations was broad, covering several characteristics of industrial growth. But some of the Commission's recommendations were actually implemented. Same was the fate of the recommendations of numerous other Conferences and Committees. Whenever requests were made through Indians for starting new organizations or expanding existing ones, the government pleaded insufficiency of finances or inadequacy of demand. The interests of the colonial management and those of the nationalists in mainly instances basically clashed. A glance at the growth throughout the first quarter of 20th century will indicate that this era was characterised through a clash something like little vs. large, traditional vs. contemporary. When M.K.Gandhi started his campaign for cottage industries, varying notes were heard at the annual sessions of the Indian Science Congress. P.C. Ray, for instance, held that common progress by elementary education and traditional industries was a necessary precondition for scientific progress. But several differed with him. M.N. Saha and his Science and civilization cluster opposed the Gandhian way of economic growth and supported industrialization on a big level. The socialist experiments in Russia had unveiled the immense potentialities of science for man in conditions of economic and material progress. The national leadership was veering towards heavy industrialization and socialism, both of which stood on the foundations of contemporary science and technology. Saha establish his 'Lenin' in Subhas Chandra Bose when the latter became the Congress President in

1938. On Saha's persuasion, Bose agreed to accept national scheduling and industrialization since the top thing on the Congress agenda. The result was the formation of the National Scheduling Committee in 1938 under the chairmanship of Jawaharlal Nehru. This Committee appointed 29 sub-committees, several of which dealt with such technological subjects since irrigation, industries, public health, and education. The University sub-committee on technological education worked under the chairmanship of M.N.Saha and had distinguished members such as Birbal Sahni, J.C.Ghosh, J.N.Mukherjee, N.R.Dhar, Nazir Ahmed, S.S.Bhatnagar and A.H.Pandya. The sub-Committee reviewed inter alia, the behaviors of the existing organizations and sought to discover out how distant the infrastructure of men and tools was enough in turning out technological personnel. The outbreak of the second world war made it essential for the colonial government to job for industrial self-reliance to meet the challenges posed through war circumstances. It was, so, felt necessary to set up a Central Research Organisation and this was eventually followed through the establishment of the Council of Scientific and Industrial Research in 1942. Since section of the post-war reconstruction plan the government invited A.V. Hill of the Royal Community. In 1944 he prepared a statement that recognized several troubles confronting research in India. These growths offered greater opportunities to Indian scientists in policy-creation and administration of scientific affairs. In information the origins of the science policy of free-India and of the entire national reconstruction can be traced in these behaviors.

FROM PLANNED ECONOMY TO GLOBALISATION

Nehru and the First Three Plans

India was to effort to break out of its colonial structuring by intended economic growth. But this was to be done within a democratic and civil libertarian framework. This was a extremely demanding and uncharted path with no instance from history. All the industrialized countries of the world did not have democracy and civil liberties throughout the initial era of their transition to industrialism or era of 'primitive accumulation'. India was able to move on this uncharted path helped through the information that a consensus had appeared in the middle of all parts of political opinion in the country that the path of economic growth chosen had to be compatible with a functioning democracy.

On the Path of Intended Economy

It was fortunate from the point of view of the potential for success of Indian scheduling that a consensus had appeared on other critical characteristics of the growth path to be followed, what we may refer to since the Nehruvian consensus. For instance, the Gandhians, the Socialists, the capitalists since well since the Communists, were all more or less agreed on the following agenda: a multipronged inward oriented strategy of economic growth based on self reliance to be adopted; rapid industrialization based on import substitution including of capital goods industries; prevention of imperialist or foreign capital power; land reforms involving abolition of zamindari, tenancy reforms, introduction of cooperatives, especially service cooperatives, for marketing, credit, etc.; development to be attempted beside with equity, i.e., the development model necessity be reformist with a welfare, pro-poor orientation; positive discrimination or reservation, for a era, in favour of the mainly oppressed in Indian community: the scheduled castes and tribes; the state to play a central role in promoting economic growth including by direct state participation in the manufacture procedure, i.e., by the public sector, and therefore on. The last aspect, i.e., the role of the state, requires a bit of further elaboration.

It is to be noted that since early since the late nineteenth century, in the economic thinking of the early nationalists such since M. G. Ranade and Dadabhai Naoroji, the State was assigned a critical role in a strategy for economic growth of India. Through 1934, N. R. Sarkar, the President of the Federation of Indian Chambers of Commerce and Industry, the leading organisation of Indian capitalists, proclaimed: “the days of undiluted laissez-faire are gone for ever.” There was in information a wide consensus emerging approximately the notion that the role of the state would not only involve the proper exploit of fiscal, monetary and other instruments of economic policy and state manage and supervision in excess of the development procedure but would also have to contain a sure amount of direct participation in the manufacture procedure by the public sector. The National Scheduling Committee set up through the Indian National Congress in 1938, with Nehru since chairperson and a extremely wide ranging membership, since well since the Indian capitalists’ Plan of Economic Growth for India brought out in 1944-45 were agreed on the require for a public sector and incomplete nationalization.

There were though variations flanked by the capitalists and the Left, including Nehru, on what was to be the nature and extent of the public sector. But Nehru extremely consciously did not push his own location beyond a point unless he could carry a wide part of community with him. Scheduling under Nehru was to be consensual and not a command performance. This was a critical variation flanked by scheduling in India and scheduling in communist Soviet Union or fascist Germany.

Five Year Plans

It was this perspective with which the Scheduling Commission functioned. The First Plan essentially tried to complete projects at hand and to meet the immediate crisis situation following the end of the War. Independence had approached beside with the dislocation caused through the partition, including the huge problem of refugees resulting from the main size migration in history in the legroom of a some years. It is with the Second Plan that the celebrated Nehru-Mahalanobis strategy of growth was put into practice and it was sustained in the Third Plan. A vital unit of this strategy was the rapid growth of heavy and capital goods industries in India, most in the public sector. Import substitution in this region was seen since an imperative not only because it was seen since critical for self-reliance and reduction of external dependence but also because it was assumed that Indian exports could not grow fast sufficient to enable the import of the necessary capital goods and machinery- an export pessimism which has been criticised in later years, however it was quite commonly carried at that time. The model also saw few foreign aid and investment since essential in the initial stage to fund the huge step up in investment however the objective was to do absent with this require since soon since possible through rapidly rising domestic savings. Another critical unit of the Nehru- Mahalanobis strategy was the emphasis on development with equity and hence the issue of concentration and sharing in industry and agriculture was given a lot of attention however possibly not with commensurate success. It may be added that the strategy did not posit equity against development but assumed that higher development enabled higher stages of equity and was critical for meeting the challenge of poverty and so gave utmost attention to rapid development.

Considerable progress on many fronts was made throughout the first stage of the growth attempt spanning the first three Five-Year Plans, i.e., through the mid-1960s. The overall economy performed impressively compared to the colonial era. India's national income or Gross National Product (GNP) grew at an standard rate of in relation to the 4 per cent per annum in excess of the first three plans, flanked by 1951 and 1964-65. This was roughly four times the rate of development achieved throughout the last half century of colonial rule. It was higher than what Japan could achieve in a comparable era of its growth flanked by 1893 to 1912. Stepping up the rate of development required a substantial augment in the investment rate. The domestic savings and total investment in the Indian economy which were both 5.5 per cent of national income in 1950-51, rose to savings of 10.5 per cent and investment of 14 per cent in 1965 -66. It has been estimated that the total investment in 1965-66 was almost five times the 1951-52 stage in nominal conditions and more than three times in real conditions.

Agrarian Sector and Industry

On the agrarian front, the comprehensive land reform events initiated soon after independence, the setting up of a huge network for agricultural extension and society growth job at the village stage, the big infrastructural investment in irrigation, domination, agricultural research, etc., had created the circumstances for considerable agricultural development in this era. Throughout the first three plans, Indian agriculture grew at an annual rate of in excess of 3 per cent, a development rate 7.5 times higher than that achieved throughout the last half-century or therefore of the colonial era. The development rates achieved compared extremely favorably with what was achieved through other countries in a comparable situation, say China or Japan. For instance, Japan achieved a development rate of less than 2.5 per cent flanked by 1878 - 1912 and an even lower development rate till 1937. What was particularly creditable was that India, unlike mainly other countries achieved its land reforms and agricultural development in the context of civil liberties and a contemporary democratic building.

Industry, throughout the first three plans, grew even more rapidly than agriculture, at a compound development rate of 7.1 per cent per annum flanked by 1951 and 1965. The industrial development was based on rapid import substitution initially of consumer goods and particularly as the Second Plan of capital goods and intermediate goods. The emphasis on the latter as the Second Plan was reflected in the information that 70 per cent of plan expenditure on industry went to metal, machinery and chemical industries in the Second Plan and 80 per cent in the Third Plan. Consequently the three fold augment in aggregate index of industrial manufacture flanked by 1951 and 1969 was the result of a 70 per cent augment in consumer goods industries, a quadrupling of the intermediate goods manufacture and a ten-fold augment in the output of capital goods. A stupendous development of the capital goods sector through any averages.

Infrastructure and Other Social Requires

Separately from industry and agriculture, the early planners gave utmost priority to the growth of infrastructure, including education and health, regions greatly neglected in the colonial past. The standard actual plan expenditure throughout each of the first three Plans on Transport and Communication was in relation to the Rs 13 billion, accounting for an standard of in relation to the 26 per cent of the total plan expenditure in each plan. The corresponding figures for Social/ Society services and Domination were Rs 9.4 billion and 19.9 per cent and Rs 6.16 billion and 10.6 per cent respectively. In excess of time, Plan investment in these regions was to prove critical both in stepping up private investment and improving its productivity.

Science and Technology

Jawaharlal Nehru and the early Indian planners were acutely aware of India's backwardness in science and technology and so made huge attempts to overcome this shortcoming. Nehru's 'temples of contemporary India' consisted not only of steel and domination plants, irrigation dams, etc., but incorporated organizations of higher studying, particularly in the scientific field. Throughout the First Plan itself, high powered National Laboratories and Institutes were set up through the Council of Scientific and Industrial Research for conducting fundamental and applied research in each of the following regions: Physics, Chemistry, Fuel, Glass and Ceramics, Food Technology, Drugs, Electro-chemistry, Roads, Leather and Structure.

In 1948 the Atomic Power Commission was set up, laying the foundations of the creditable advances India was to create in the sphere of nuclear science and related regions. This was in addition to the unprecedented augment in the educational opportunities in science and technology in the universities and institutes. National expenditure on scientific research and growth kept rising rapidly with each plan. For instance, it increased from Rs. 10 million in 1949 to Rs. 4.5 billion in 1977. In excess of roughly the similar era the stock of India's scientific and technological manpower increased more than 12 times from 190 thousand to 2.32 million. A spectacular development through any averages, placing India, after the dissolution of the Soviet Union, since the second country in the world in conditions of the absolute mass of scientific and technological manpower. A biggest attainment despite the information that the excellence of education in common, and particularly in the university organization, has tended to deteriorate in recent years and there is huge brain drain, most to the US, of a significant section of the best talent produced in the country. Also, it is an attainment of considerable significance, since increasingly today 'knowledge' is becoming the key factor of manufacture and there is a global awareness of the must to focus on education and human resource growth. That India can even think of participating in the globalization procedure in today's world of high technology, with any degree of competitiveness and equality, is mainly due to the spadework done as independence, particularly the great emphasis laid on human resource growth in the sphere of science and technology.

Several of the extra ordinary attainments of the Nehru era were built upon and accepted forward in subsequent years. Though, few structural troubles most born out of excessive and faulty state intervention, which had begun to emerge in the Nehruvian era but grew alarmingly in later years needed to be urgently dealt with.

Development in the Post Nehru Period: 1965-1990

The era from the mid-1960s to the end-1980s was a era of considerable attainment for the Indian economy especially if they are evaluated keeping in view a series of formidable internal and external shocks witnessed throughout these years. The Indian economy was in the grips of a huge crisis in several compliments through the mid- 1960s, which rapidly changed India's image from a model developing country to a 'basket case'. Two successive monsoon failures of 1965 and 1966, superimposed on an agriculture which was beginning to illustrate signs of stagnation, led to a fall in agricultural output through 17 per cent and food grain output through 20 per cent. The rate of inflation which was hitherto kept extremely low rose sharply to 12 per cent per annum flanked by 1965 and 1968 and food prices rose almost at the rate of 20 per cent per annum. The inflation was partly due to the droughts and partly due to the two wars of 1962 and 1965 which had led to a huge augment in defence expenditure. Following the crisis of the mid 1960s there was the 1971 war with Pakistan, the genocide in East Pakistan resulting in the vast burden of in excess of ten million refugees from that area taking shelter in India, two droughts of 1972 and 1974, the biggest oil shock of 1973 involving a quadrupling of international oil prices and hence of cost of oil imports, the oil shock of 1979 when oil prices doubled, the disastrous harvest of 1979-80 caused through the worst drought as independence and the widespread successive droughts of 1987 and 1988!

Concerted attempts were made after the mid 1960s primarily under Indira Gandhi's leadership to, inter alia, improve the balance of payments situation, make food security, introduce anti-poverty events and reduce dependence on imports for critical inputs like oil. These enabled India to weather the impact of the droughts, war and the oil shocks without receiving into a debt crisis and a recessionary spin since happened in the case of a number of developing countries, especially in Latin America in the 1980s, and without serious famine circumstances, leave alone famine deaths through the millions that occurred in Communist China in the late 1950s. On the food front the situation improved rapidly. The adoption of the 'Green Revolution' strategy of introducing a package of high yield diversity seeds, fertilizers and other inputs in a concentrated manner to few appropriate select regions paid immediate dividends in creating food security and poverty reduction. Flanked by 1967-68 and 1970-71 food grain manufacture rose through 35 per cent. Net food imports fell from 10.3 million tones in 1966 to 3.6 million in 1970, while food availability increased from 73.5 million tones to 89.5 million tones in excess of the similar era. Food availability sustained to augment sharply to 110.25 million tones in 1978 and 128.8 million tones in 1984 and food stocks had crossed the 30 million tones spot through the mid 1980s, putting an end to India's 'begging bowl' image and creating considerable food security even in extreme crisis situations. For instance, the economy was

able to absorb the huge successive droughts of 1987-88 without undue pressure on prices of food or imports.

Separately from food self-sufficiency, sure other characteristics appeared in the Indian economy after the crisis of the mid-1960s that pointed towards a greater autonomy of the Indian economy and increased self-reliance. Net aid since a proportion of Net National Product (NNP), which had peaked to an standard of 4.22 per cent throughout the Third plan came down to 0.35 in 1972-73 and rose only slightly after the 1973 oil crisis, but yet averaged not more than 1 per cent of NNP till 1977-78. The debt-service ratio, i.e., the annual outflow of interest and repatriation of principal due to existing debt since a proportion of exports of goods and services, fell to a low and easily manageable 10.2 per cent in 1980-81 from an estimated 23 per cent in 1970-71 and 16.5 per cent in 1974-75. Further, the volume of foreign private investment remained marginal and the ratio of foreign savings to total investment fell and remained low during the 1970s, at a time when the rates of domestic savings and investment increased rapidly. From an standard savings rate of 10.58 per cent and a rate of Gross Domestic Capital Formation or investment of 11.84 per cent in the 1950s, the savings and investment rates almost doubled to 21.22 per cent and 20.68 per cent respectively flanked by 1975-76 and 1979-80. Flanked by 1990-91 and 1995-96 the rates of gross domestic savings and capital formation were 23.8 and 25.35 respectively, rates comparable to many high development economics.

Further, India moved a extensive method in reducing her close to total dependence on the advanced countries for vital goods and capital equipment, which was necessary for investment or making of new capability. At independence, to create any capital investment, virtually the whole equipment had to be imported. For instance, in 1950, India met 89.8 per cent of it's requires for even machine apparatus by imports. In contrast to this, the share of imported equipment in the total fixed investment in the shape of equipment in India had approach down to 43 per cent in 1960 and a mere 9 per cent in 1974, whereas the value of the fixed investment in India increased through in relation to the two and a half times in excess of this era. In other languages, through the mid 1970s, India could meet indigenously more than 90 per cent of her equipment necessities for maintaining her rate of investment. This was a biggest attainment, and it substantially increased India's autonomy from the advanced countries in determining her own rate of capital accumulation or development. It was this, and the food security India was able to achieve once the procedure of the Green Revolution took off, which explains India's skill to retain an self-governing foreign policy by the dense of the cold war withstanding enormous external pressures.

A new characteristic of the 1980s was the phenomenal augment in new stock market issues, the stock market therefore emerging since an significant source of finances for industry. It has been

estimated that in 1981 the capital market accounted for only 1 per cent of domestic savings, whereas through the end of the 1980s this proportion had increased through in relation to the seven times. The new stock issue in 1989 was Rs. 6,500 crores, which was in relation to the 7.25 per cent of Gross Domestic Savings of 1989-90. Another estimate illustrates that in 1990 Indian companies raised an unprecedented Rs. 12,300 crores from the primary stock market. The early eighties also saw a highly successful breakthrough in the import substitution programme for oil under the supervision of the ONGC, a public sector organisation. The big loan received from the IMF in this era helped this attempt substantially. In 1980-81, domestic manufacture of oil was 10.5 million tones and imports 20.6 million tones, the oil import bill taking up 75 per cent of India's export earnings! With new discoveries at the Bombay High oil meadows, through the end of the Sixth Plan, the target of indigenous manufacture of 29 million tones was achieved. Since a result, in 1984-85, the net import of oil and oil products was less than a third of the domestic consumption and the oil import bill was also down to a third of export earnings.

Through the mid 1970s, the industrial development rate also started picking up from a low of in relation to the 3.4 per cent flanked by 1965-75 to in relation to the 5.1 per cent flanked by 1975-85. If the crisis year of 1979-80 was omitted, then the industrial development rate throughout 1974-75 to 1978-79 and 1980-81 to 1984-85 was in relation to the 7.7 per cent per annum. In the 1980s since a entire the industrial development rate maintained a healthy standard of in relation to the eight per cent per year. Again it was in the 1980s that the barrier of the low, so-called 'Hindu rate of development' of 3 to 3.5 percent that India had maintained in excess of the previous two decades was broken and the economy grew at in excess of 5.5 per cent.

Structural Constraints and the Require for Reform

While on the one hand the Indian economy in the 1980s seemed to be doing quite well, on the other hand there were sure extensive-term structural weaknesses structure up which were to all add up to a biggest crisis through 1991 when the country was on the verge of defaulting. It is this crisis which brought house to the country the immediate must of bringing in relation to the structural adjustment and economic reform.

Constraints

Broadly there were three sets of troubles which had gathered strength in the Indian economy in excess of time and which needed urgent reform. First, the excessive state intervention in the

therefore described 'licence-quota raj' was leading to the making of tremendous inefficiency. Prolonged defense to Indian industry from imports through following the import substituting industrialization (ISI) strategy led to the killing of external competition. Likewise, industrial licensing effectively prevented free internal competition. In the absence of internal and external competition Indian industry grew extremely inefficient. Other regulations such as the MRTP Act further inhibited industrial growth. The Act went against the vital principle of economies of level, which is at the heart of capitalist growth. It also punished efficiency, since any company, which expanded due to efficient manufacture, good administration and research and growth, would side severe restrictions, including refusal of permission to augment capability once it crossed a prescribed limit. Again, reserving some regions for little-level industries meant excluding these regions from the advantages of level and superior possessions for R & D behaviors. This made the sector often internationally uncompetitive, leading to India losing out to its competitors in several regions. Also, the policy towards little-level industry forced entrepreneurs in the reserved regions to remain little, since any expansion since a result of efficient and profitable functioning would deny the enterprise the special incentives and concessions. This inhibited efficiency and innovation in this sector.

Second the big public sector in India, which controlled 'the commanding heights' of the economy, also began to emerge since a biggest source of inefficiency. The early emphasis on the public sector was critical to India's industrial growth. It is the public sector which entered the core regions, diversified India's industrial building, particularly with regard to capital goods and heavy industry, and reduced India's dependence on foreign capital, foreign equipment and technology. Though, in excess of time, the political and bureaucratic pressure on the public sector undertakings slowly led to mainly of them running at a loss. They were overstaffed, often headed through politicians who had to be given sinecures, became victims of irresponsible deal unionism and were unable to exercise virtually any efficiency accountability on their employees. State run utilities like Electricity Boards and Road Transport Corporation were notorious for incurring enormous losses. Separately from rampant corruption and lack of accountability, these enterprises, under populist pressure, often charged rates that did not cover even a little fraction of the actual costs. The free sharing of electricity being an extreme case in point.

All these factors led to the investment efficiency in India being extremely low or the capital output ratio being extremely high. A 1965 review illustrates that the public sector Heavy Electrical Limited was set up in Bhopal with a capital output ratio of flanked by 12 to 14 - with no questions being asked or enquiry set up! However this is an extreme case, estimates for the economy since a entire illustrate that the capital used per element of additional output or the incremental capital output ratio kept growing, it being a small in excess of 2 throughout the First Plan and had reached 3.6

throughout the Third Plan. Just as to one estimate flanked by 1971 and 1976 the ICOR had touched a high of 5.76. This explains why despite substantial increases in the rate of investment, there was an actual decrease in the overall development rates of aggregate output or GDP flanked by the 1950s and 1970s. The ICOR started declining in the 1980s however it still remained approximately 4 in the 1990s. Even throughout the 1980s, one estimate illustrates that the standard rate of financial return on employed capital in public sector enterprises was since low since 2.5 per cent. Actually, the rate of return was much lower if the 14 petroleum enterprises were excluded, since these accounted for 77 per cent of the profits in 1989-90.

Low efficiency or low productivity stages are of critical consequence since economic superiority is recognized and transfer of surplus from one country to another occurs not by direct political or economic power but by procedures such since unequal swap occurring flanked by countries with dissimilar productivity stages. Economic thinkers of the Left and the Right are agreed on placing the question of productivity at the centre of any national growth. In today's context of rapid globalization, pursuing excessively autarchic policies in search of autonomy may, by fall or stagnation of productivity stages, destroy precisely that autonomy and push the country towards peripheralisation. This brings us to the third set of weaknesses that appeared in the India economy. It relates to the continuation of the inward oriented developmental path followed through India as independence. India failed to create a timely shift from the export pessimism inherent in the first three plans, a pessimism which, one necessity recognize, was shared widely through growth economists the world in excess of in the 1950s. The failure place not in adopting the policies that appeared from the wisdom of the 1940s and 1950s but in the inability to quickly react to changes occurring in the international situation and to world capitalism after World War II, particularly as the 1960s and 1970s, and transform course accordingly.

Require for Reform

Few of the significant changes that needed to be taken cognizance of were, extremely briefly, the following: First, the nature of foreign capital and multinational corporations was changing. A procedure of 'internationalization of manufacture' had started. Multinational corporations, instead of presently looking for markets or sources of raw material, now looked for cheaper manufacture regions. Instead of creating enclaves in the backward countries, which had backward and forward linkages with the house country, they were now bringing in investments which had biggest multiplier effects on the regional economy, including of technology transfer.

It became general for multi-national companies to 'source' a big section of the components that went into the final product from all in excess of the developing world and even shift whole

manufacture plants to the under-urbanized countries. Second, beside with, and partially since a result of there were huge capital transfers flanked by countries, reminiscent of the capital transfers of the 19th century at the height of colonial expansion, but extremely dissimilar in character. The two procedures contributed to the third biggest international growth that of an unprecedented explosion of world deals. Flanked by the 1950s and 1970s, world output of manufactures increased four times but world deal in manufactures increased ten times. The percentage of world produce that went for export doubled flanked by 1965 and 1990. What is mainly significant is that while there was a huge augment in global industrial exports, the Third World was able to rapidly augment its share of total industrial exports, especially as the 1970s, from in relation to the 5 per cent in 1970 to double the figure in 1983.

The East Asian Miracle, i.e., the rapid industrialization of the East Asian countries, beginning in the 1960s, which slowly shifted the industrial foundation of the world from the West to the East, took advantage precisely of these types of opportunities of capital and market availability. Japan's instance of explosive post-World War II development was being repeated through South Korea, Taiwan, Singapore, Hong Kong and, more recently, Thailand, Malaysia, China and Indonesia. The four Asian Tigers, South Korea, Hong Kong, Singapore and Taiwan increased their share in world export of manufactures from 1.5 per cent in 1965 to 7.9 per cent in 1990. Even the newly industrializing economies, Indonesia, Malaysia and Thailand increased their share shape 0.1 per cent to 1.5 per cent in excess of the similar era. India did reasonably well till the mid-1960s, basing herself on an inward oriented, import-substitution based strategy. Though, she failed to respond adequately to the new opportunities thrown up through the changing world situation despite the availability of the East Asian experience In information India's share in world exports actually shrunk from in relation to the 2.4 per cent in 1948 to 0.42 per cent in 1980, growing to a still paltry 0.6 per cent through 1994. In contrast, South Korea's manufactured exports, which were smallest in 1962, amounted to four times those of India through 1980. The volume of India's manufactured exports in 1980-81 was 1/2 that of China, 1/3 of Brazil and 1/ 4 of South Korea.

India was therefore unable to exploit the opportunities provided through the changed world situation, the new stage of globalization, to rapidly industrialize and change its economy, augment income stages and drastically reduce poverty stages, since did several of the East Asian countries. The fourth set of troubles, which overcame the Indian economy, was primarily the result of sure political imperatives, which related to the manner in which the Indian state building and the Indian democratic framework evolved. On the one hand there was the emergence of more and more parts which made strong, articulate demands on state possessions and on the other the governments were increasingly unable either to meet these demands fully or diffuse the clamor for them. This resulted

in the gradual abandoning of fiscal prudence from in relation to the mid -1970s. This in turn led to a situation where the macroeconomic balance, which was maintained in India with great caution for the first 25 years or therefore after independence, was being gradually eroded.

The gradual erosion of fiscal prudence was reflected in government expenditure growing uniformly, most because of the proliferation of subsidies and grants, salary increases with no connection to efficiency or output, overstaffing, and other 'populist' events such since huge loan waivers or creation vast budgetary allocations which were aimed at winning in excess of support of a scrupulous part of community rather than at achieving best overall growth.

While the response to the mid-'60s crisis was fiscal and balance of payments caution, relaxation of fiscal discipline became rampant after 1975 and particularly throughout the Janata regime of 1977-79. The food subsidies doubled flanked by 1975-76 and 1976- 77 from Rs. 2.5 billion to Rs. 5 billion. The fertilizer subsidy multiplied ten times from Rs. 0.6 billion in 1976-77 to Rs. 6.03 billion in 1979-80. The export subsidy multiplied through in relation to the 4 1/2 times from Rs. 0.8 billion to Rs. 3.75 billion flanked by 1974-75 to 1978-79. Throughout 1977 -79 procurement prices for foodgrains were increased without corresponding increases in issue prices, taxes on a wide range of agricultural inputs were decreased and budgetary transfers to loss creation public sector elements increased. In information, the 1979 budget has been called through eminent economists Vijay Joshi and I. M. D. Small since a "watershed marking the transform from previous fiscal conservatism."

The fiscal profligacy sustained by the 1980s and particularly throughout the second half of the 1980s reaching absurd limits where, e.g., the V.P.Singh-led National Front Government that came to domination in 1989 announced a loan waiver for the farmers which would cost the exchequer more than Rs. 100 billion. The direct subsidies from the central budget on only food, fertilizer and exports in 1980-81 have been estimated to exceed Rs. 15 billion, an amount on behalf of almost half of the total gross capital formation or investment in manufacturing in the public sector that year! While there was this explosive development of Government spending, the savings generated through the Government or public sector kept falling with their rising losses. The result of fiscal profligacy was that the consolidated Government fiscal deficits or the revenue and expenditure gap rose sharply from 4.1 per cent of GDP in 1974-75 to 6.5 per cent in 1979-80, 9.7 per cent in 1984-85, peaking at 10.4 per cent in 1991. Governments in this era tended to seek methods and means of rising their domestic and foreign borrowing to meet this deficit rather than either trying to augment government savings or reduce government expenditure.

The rising government saving-investment gap and the fiscal deficit had a negative impact on the balance of payments and debt situation, since the Government resorted to heavy borrowing to

meet this gap. From a situation of balance of payments surplus on the current explanation in 1977-78 of \$ 1.5 billion, through 1980- 81 there was a deficit in the current explanation to the tune of \$ 2.9 billion. The deficit increased to \$ 3.5 billion in 1984-85 and rose extremely sharply thereafter to \$ 9.9 billion in 1990-91. The deteriorating fiscal and balance of payments situation had led to a mounting debt problem, both domestic and foreign, reaching crisis proportions through the end of the 1980s. Total Government domestic debt rose from 31.8 per cent of GDP in 1974-75 to 45.7 per cent in 1984-85 to 54.6 per cent in 1989-90. The foreign debt situation also became extremely precarious with debt growing from \$23.5 billion in 1980-81 to \$37.3 billion in 1985-86 to \$83.8 billion 1990-91. The debt service ratio which was still a manageable 10.2 per cent in 1980-81 rose to a dangerous 35 per cent in 1990-91.

India's foreign swap reserves fell from \$ 5.85 billion in 1980-81 to \$ 4.1 billion in 1989-90, and in the after that year they fell drastically through almost half to \$ 2.24 billion in 1990-91, sufficient only for one month's import cover. The Iraqi invasion of Kuwait in August 1990, leading to an augment in oil prices and a fall in Indian exports to the Transitional East or Gulf area, partly contributed to this alarming foreign swap situation. India's international credit rating was sharply downgraded and it was becoming very hard to raise credit abroad. In addition NRI deposits in foreign swap began to be withdrawn rapidly. In such a situation, where foreign lending had virtually dehydrated up, the government was forced to sell 20 tones of gold to the Union Bank of Switzerland in March 1991 to tide in excess of its immediate transactions. Through July 1991 foreign swap reserves were down to a mere two weeks import cover despite loans from the IMF. The country was at the edge of default. This is the situation in which the minority Congress government of Narasimha Rao took domination and with Manmohan Singh since fund minister one of the mainly significant economic reforms as independence were attempted.

Economic Reforms as 1991: Liberalisation and Globalization

The extensive-term constraints structure up in excess of a some decades that were debilitating the Indian economy combined with sure more recent and immediate factors to lead to a huge fiscal and balance of payments crisis, climaxing in 1991. The crisis pushed India into initiating a procedure of economic reform and structural adjustment. The require for reform had been recognised early sufficient in India. Manmohan Singh Jagdish Bhagwati and others had been arguing for it as the 1960s and 70s. Attempts at reform and liberalization began as the 1980s if not earlier, but, its comprehensive implementation could not happen for several causes. Governments, especially when in a vulnerable situation were very wary of initiating or sustaining reforms which would involve

introducing unpopular events like efforts to regain fiscal discipline, transform in labour laws, etc., steps which in the initial stage were bound to be painful. Also, there was persistent opposition to reform from vested interests such since the bureaucracy and even parts of business who benefited from the existing organization of manages, by them to earn a sort of 'rent'. Last and certainly not the least, a strong ideological opposition from the orthodox Left, strangely oblivious to the changing global reality, sustained to play a role in obstructing reform.

The crisis in 1991, with the country at the edge of default, enabled the Narasimha Rao government to break by the traditional mindset and effort an unprecedented comprehensive transform at a time when both the ideological opposition and the resistance of the vested interests was at a weak point. Therefore, however late, almost thirteen years after China changed course, a programme of economic reform was initiated in 1991. One cause why the shift took therefore extensive and, even when it took lay, was not since sharp a turnaround since it was in China in 1978 or the Soviet Union after the mid 1980s was that in a democracy the transform from one type of societal consensus to a new consensus is a procedure and not an event, and consequently it has its own dynamic, extremely dissimilar from that operating in a non-democratic or totalitarian community. While arriving at a democratic consensus is more time consuming, once a consensus is arrived at it is distant more durable or stable than changes brought in relation to the through force from the top.

The procedure of reforms started in 1991 involved, inter alia, an immediate fiscal correction; creation the swap rate more realistically connected to the market; liberalization of deal and industrial manages like freer access to imports, a considerable dismantling of the industrial licensing organization and the abolition of MRTP; reform of the public sector including gradual privatization; reform of the capital markets and the financial sector; removing a big number of the restrictions on multinational corporations and foreign investment and in information welcoming them, particularly foreign direct investment, and therefore on. In short it was an effort to free the economy from stifling internal manages since well since equip it to participate in the worldwide globalization procedure to its advantage. The record of the first some years of reform was creditable through any averages, however a lot of troubles and challenges still remained. India performed one of the fastest recoveries from a deep macroeconomic crisis. Moreover, the procedure of structural adjustment, particularly the fiscal reining-in, was achieved with relatively minimal pain - without it setting off a prolonged recessionary cycle leading to huge unemployment and deterioration of the condition of the poor since was feared and since occurred in the case of many other economies in a same situation attempting structural adjustment.

For instance, the development rate of India's Gross Domestic Product (GDP) which had fallen to a paltry 0.8 per cent in the crisis year of 1991-92 recovered quickly to 5.3 per cent through 1992-93 and rose further to 6.2 per cent in 1993-94 despite the biggest disturbances in 1992-93 triggered off through the Ayodhya crisis. More significant, in excess of the after that three years, the Indian economy averaged an unprecedented development rate of in excess of 7.5 per cent, a rate closer to the high performers of East Asia than it had ever been before. Despite the crisis and the necessary structural adjustment, the Eighth Plan averaged a development rate of almost 7 percent, higher, and on a more sustainable foundation, than the Seventh Plan standard of 6 percent. Gross Domestic Savings averaged in excess of 23 percent flanked by 1991 and 1997, higher than the Seventh Plan standard of 20.6 per cent. Gross Domestic Capital formation and Gross Domestic Fixed Capital Formation flanked by 1992 to 1997 also maintained a respectable standard of 25.2 per cent and 22.3 per cent of GDP respectively, substantially higher than the Seventh Plan standard of 21.8 and 19.8 percent.

Industrial manufacture, which showed a dismal, less than one per cent, development rate in 1991-92, picked up to 2.3 per cent in 1992-93 and 6 per cent in 1993-94, peaking at an unprecedented 12.8 per cent throughout 1995- 96. The capital goods sector, which demonstrated negative development rates for a some years, bounced back to almost 25 per cent development in 1994-95, allaying early fears that import liberalization would hit the domestic capital goods industry adversely. The little-level sector too grew faster than overall industrial development, suggesting that abolition of MRTP did not have an adverse effect on it and possibly encouraged its development. Agriculture, too, after recording a fall in 1991-92, picked up the following year and through and big maintained till 1996-7 the high rate of development of in excess of three per cent which it had been experiencing for few years. The Central Government fiscal deficit, which had reached 8.3 per cent of GDP in 1990-91, was reduced and averaged roughly 6 per cent flanked by 1992-97. The significant thing was that out of the total fiscal deficit of 5.2 per cent in 1996-97, 4.7 per cent was accounted for through interest payments which was a liability emanating from section fiscal laxity. The primary deficit, i.e., fiscal deficit net of interest payments, which symbolizes current fiscal pressures or overspending was only 0.6 per cent in 1996-97, systematically brought down from 4.3 per cent of GDP in 1990-91 and 2.9 per cent in 1993-94.

The external sector also showed considerable improvement. Exports, which registered a decline of 1.5 per cent in dollar conditions throughout 1991-92, recovered quickly and maintained an standard development rate of almost 20 per cent flanked by 1993-1996. Extremely significantly, India's self reliance was rising to the extent that a substantially superior proportion of imports were now paid for through exports, with the ratio of export earnings to import payments growing from an

standard of 60 per cent in the 1980s to almost 90 per cent through the mid 1990s. The current explanation deficit in balance of payments, which had reached an unsustainable 3.2 per cent of GDP in 1990-91, was brought down to 0.4 per cent in 1993-94 and rose as then to 1.6 per cent in 1995-96. Yet the standard deficit flanked by 1991-92 and 1997-98 was in relation to the 1.1 percent, significantly lower than the Seventh Plan standard of in relation to the 2.3 per cent. The foreign swap reserves had grown to a respectable \$ 30.4 billion at the end of January 1999, providing cover for in relation to the 7 months of imports since compared to a mere two weeks cover in July 1991.

The debt situation has also started moving absent from a crisis point. The overall external debt/GDP ratio for India fell from a peak of 41 per cent in 1991-92 to 28.7 per cent in 1995-96. The debt service ratio also fell from the peak of 35.3 per cent in 1990- 91 to 19.5 per cent in 1997-98. It is though still quite high compared to China, Malaysia and South Korea, who all had debt service ratios below 10 per cent. Reforms and liberalization of the stock market as the 1980s and particularly after 1991 produced dramatic results. The total market capitalization on the Indian stock markets since a proportion of GDP rose from a mere 5 per cent in 1980 to 13 per cent in 1990 and, following further reforms as 1991, it rose rapidly to 60 per cent of GDP through the end of 1993. Through 1995 the Indian stock market was the main in the world in conditions of the number of listed companies - superior even to the US. The amount of capital Indian companies could raise in the primary market in India increased from Rs 929 million in 1980 to Rs 2.5 billion in 1985 and Rs 123 billion in 1990. Through 1993-4 the figure had reached Rs 225 billion - a almost 250 times augment as 1980.

The encouragement to foreign investment bore fruit with foreign direct investment (FDI) rising at almost 100 per cent per year flanked by 1991 to 1996, it is \$ 129 million in 1991-92 and \$2.1 billion in 1995-96. Total foreign investment including portfolio investment increased from \$ 102 million in 1990-91 to \$ 4.9 billion in 1995-96. Considerable improvement no doubts but yet a distant cry from what was being achieved through the East Asian countries. China alone had been absorbing more than \$ 30 billion of foreign direct investment every year for few years, the figure for 1996 being \$ 40.8 billion. One positive sign though was that one of the mainly stubborn mind sets - the xenophobia in relation to the foreign capital—looks to have been eroded, with the General Minimum Programme (CMP) of the coalition government, to which even the Communists were a party, desiring that the foreign direct investment (FDI) in India should rise to \$ 10 billion per year. Though, the danger emanating from the relatively volatile nature of foreign portfolio investments, with the possibility of their sudden withdrawal due to often unpredictable extraneous factors, was understood through successive Governments and attempts made to manage short-term capital inflows and capital flight.

Critics of reform, most from the orthodox Left, have made the charge that reform was anti-poor. Studies of a big number of countries have shown that barring a some exceptions, rapid economic development has been associated with fall in poverty stages. India too witnessed significant fall in poverty stages with the relatively faster economic development of the 1980s. The proportion of population below the poverty row fell from 51.3 per cent in 1977-78 to 38.9 per cent in 1987-88. Countries like China and Indonesia, which had much higher poverty ratios of 59.5 and 64.3 in 1975 compared to India's 54.9 in 1973-4, were able to reduce their poverty stages too much below India's in the span of twenty years. These countries maintained a much higher rate of development than India throughout this era and their poverty ratios had fallen dramatically to 22.2 and 11.4 respectively through 1995, while India's had fallen only to 36 through 1993-94.

To the extent, so, that the economic reforms were intended to put India on a higher development path, it would be expected that poverty stages would decline since well. The key question remaining was what would be the impact on poverty in the middle stage, especially when the necessary stabilization had to take lay with the efforts to improve the balance of payments location and reduce the fiscal deficit, leading to a possible fall in Government expenditure. India's initial stabilization programme was said to be "remarkably successful" causing "extraordinarily small suffering" when "compared with mainly other countries, which were forced to effect a big and rapid reduction in their current external explanation deficits." Calculations based on many dissimilar indicators of poverty illustrate that poverty, most rural poverty, showed a significant rise only in 1992-93 and its causation was connected most to a drought and fall in food grain output in 1991-92, leading to a rise in food prices, and extremely weakly to the stabilization programme. Even this was possibly avoidable to a great extent and the government's failure in not anticipating the situation and maintaining expenditure on rural employment programmes, and its not refraining from creation any cuts in the anti- poverty Social Services and Rural Growth expenditure in 1991-92 to achieve fiscal stabilization, has been criticised even through the supporters of reform. Though, all the poverty indicators showed that through 1993-94 there was much improvement in the poverty situation. The poverty stages, both rural and urban, were significantly lower in 1993-94 than in 1992, through almost six percentage points, and were lower than the pre-reform standard of the five years 1986-87 to 1990-91. Therefore it may be noted that the stabilization under the reforms had small negative impact if any on poverty stages. Other characteristics of structural reform, it is usually agreed, do not threaten the poor and in information would improve their condition through releasing the full development potential of the economy.

The improvement in the poverty situation was helped through the information that the government increased the overall expenditure on Social Services and Rural Growth as 1993-94 -

from 7.8 per cent of total Government expenditure in 1992-93 to an standard of almost 10 per cent flanked by 1993 and 1998. Real agricultural wages, which had decreased through 6.2 per cent in 1991-92, grew in the after that two years at in excess of 5 per cent per year and had through 1993-4 surpassed the pre-reform stage. After the low of 1991-2, additional employment generated in the total economy rose to 7.2 million in 1994-95, averaging in relation to the 6.3 million occupations every year flanked by 1992-3 and 1994-95, substantially higher than the standard annual augment of 4.8 million in the 1980s. Moreover, inflation, which hurts the poor the mainly, was kept under manage. The annual rate of inflation, which touched a high of 17 per cent in August 1991, was brought down to below 5 per cent in February 1996. Though, however on the entire the reform initiatives seem quite successful, there is still a extensive method to go. Sustained political instability, aggravated through no clear majority emerging in parliament of any political party, has made it hard for any government to move absent from populist events and take tough but necessary decisions. That is why no serious attempts were made to augment public savings and reduce government expenditure and the problem of high fiscal deficits sustained.

One of the mainly dangerous reversals is in the sphere of fiscal deficit, where the primary deficit which had been brought down to 0.6 per cent of GDP in 1996-97 more than doubled to 1.3 per cent in 1997-98 and for the Centre and States jointly it was estimated to be 2.4 per cent. The selective acceptance of the Fifth Pay Commission recommendations through the United Front government in 1997, whereby the government expenditure on salaries was to augment extremely sharply without any compensatory savings, since the events suggested through the Commission to achieve such savings were not carried, put further pressure on the fiscal deficit. The situation reached a point where, “given the serious fiscal slippage”, even the Economic Survey of the Government of India of 1998-99 was constrained to argue, “the time has possibly approach to reconsider the issue of constitutional limits on the deficit.”

Yet, it is a positive growth of enormous significance in a democracy, that there is a broad consensus in the middle of all political parties from the Right to the Left that the reform procedure necessity continue, a consensus reminiscent of the one approximately the Nehruvian programme at independence. The consensus is suggestive of the information that economic reform or liberalization did not mean a transform of goals set at independence through the Indian people, such since rapid development, industrialization, self reliance, removal of poverty and therefore on. Liberalization and participation in the globalization procedure was not the “final surrender” to international capital or imperialism or the IMF-World Bank combine since has been argued ad infinitum through parts of the orthodox Left. On the foundation of the experience with several manages and state intervention at house, of changes occurring in the world such since the collapse of the Socialist world, the new

globalization procedure after World War II and the experience of several fast rising economies in the recent past, the aspiration towards the similar goals set out at independence required an altering of strategy.

Though, this is not to say that the earlier 'Nehruvian' strategy was wrong. That strategy had its historical significance. Since we saw, it gave the Indian economy a sure depth and spread, increased its bargaining domination and independence, and lent the Indian economy and community the dignity it did not possess after the colonial experience. In information it made the Indian economy capable of participating in the globalization procedure without being swamped through it in a manner that the stronger economies in the global framework could set up a dominating or exploitative location vis-à-vis the Indian economy. Though, in excess of time, sure negative characteristics urbanized, and the world context changed. To achieve the earlier goals, there was now a require for a shift in strategy. To provide presently one instance, if self-reliance and rapid development in the 1950s required import substitution and restrictions on capital and commodity movements, today capital and technology flows and by that keeping up efficiency or productivity stages is the circuit to self-reliance and rapid development.

It is no accident that therefore several of the extremely people who created, outlined or subscribed to the earlier Nehruvian strategy in excess of time saw the must of reform. We have, for instance, separately from Indira Gandhi herself, the radical economist of the Nehruvian period K.N. Raj, the Marxist economist Lord Meghnad Desai, the Nehruvian Narasimha Rao, Left economist Late Sukhamoy Chakravarty, C.H. Hanumantha Rao, Arjun Sengupta and Nobel laureate Amartya Sen, and practicing Communist and Chief Minister of West Bengal for the longest tenure as independence, Jyoti Basu, his successor in the Communist led West Bengal Government, Chief Minister Buddhadeb Bhattacharya all implementing or arguing for economic reform involving liberalisation and participation in the globalization procedure, however with dissimilar approaches and in varying degrees. Even the BJP, despite the strong resistance of the RSS supported Swadeshi Jagran Manch, is essentially committed to pressing on with reforms. There is, in other languages, a rising recognition in India of the imperative to be responsive to the external changes and internal experience and transform strategy therefore that this great country is able to approach into its own and realize its enormous potential rather than fritter absent the considerable attainments made as independence. There is today a consensus on reforms involving liberalisation and participating in the globalization procedure with the similar objectives of equity, development and independence approximately which the erstwhile Nehruvian consensus had been constructed. The strategy to achieve those objectives was changed with the changing global and internal situation.

THE POLITICAL ECONOMY OF LIBERALISATION

Expansion and Development of Indian Economy

The economic growth in India followed socialist-inspired policies for mainly of its self-governing history, including state-ownership of several sectors; long regulation and red tape recognized since "Licence Raj"; and separation from the world economy. India's per capita income increased at only approximately 1% annualized rate in the three decades after Independence. As the mid-1980s, India has gradually opened up its markets by economic liberalization. After more fundamental reforms as 1991 and their renewal in the 2000s, India has progressed towards a free market economy.

In the late 2000s, India's development reached 7.5%, which will double the standard income in a decade. Analysts say that if India pushed more fundamental market reforms, it could sustain the rate and even reach the government's 2011 target of 10%. States have big responsibilities in excess of their economies. Maharashtra has proved all time hit contributor to boost up the economic rise as independence. The annualized 1999–2008 development rates for Tamil Nadu, Gujarat, Haryana, or Delhi were significantly higher than for Bihar, Uttar Pradesh, or Madhya Pradesh. India is the tenth-main economy in the world and the third main through purchasing domination parity adjusted swap rates. On per capita foundation, it ranks 140th in the world or 129th through PPP.

The economic development has been driven through the expansion of services that have been rising uniformly faster than other sectors. It is argued that the pattern of Indian growth has been a specific one and that the country may be able to skip the intermediate industrialization-led stage in the transformation of its economic building. Serious concerns have been raised in relation to the jobless nature of the economic development.

Favourable macroeconomic performance has been a necessary but not enough condition for the significant reduction of poverty in the middle of the Indian population. The rate of poverty decline has not been higher in the post-reform era. The improvements in few other non-economic dimensions of social growth have been even less favourable. The mainly pronounced instance is an exceptionally high and persistent stage of child malnutrition.

The progress of economic reforms in India is followed closely. The World Bank suggests that the mainly significant priorities are public sector reform, infrastructure, agricultural and rural growth, removal of labor regulations, reforms in lagging states, and HIV/AIDS. For 2012, India ranked 132nd in Ease of Doing Business Index, which is setback since compared with China 91st and Brazil 126th. Just as to Index of Economic Freedom World Ranking an annual survey on economic freedom

of the nations, India ranks 123rd since compared with China and Russia which ranks 138th and 144th respectively in 2012.

Agriculture

India ranks second worldwide in farm output. Agriculture and allied sectors like forestry, logging and fishing accounted for 18.6% of the GDP in 2005, employed 60% of the total workforce and despite a steady decline of its share in the GDP, is still the main economic sector and plays a significant role in the overall socio-economic growth of India. Yields per element region of all crops have grown as 1950, due to the special emphasis placed on agriculture in the five-year plans and steady improvements in irrigation, technology, application of contemporary agricultural practices and provision of agricultural credit and subsidies as the green revolution.

India is the main producer in the world of milk, cashew nuts, coconuts, tea, ginger, turmeric and black pepper. It also has the world's main cattle population. It is the second main producer of wheat, rice, sugar, groundnut and inland fish. It is the third main producer of tobacco. India explanations for 10% of the world fruit manufacture with first rank in the manufacture of banana.

The required stage of investment for the growth of marketing, storage and cold storage infrastructure is estimated to be vast. The government has implemented several schemes to raise investment in marketing infrastructure. In the middle of these schemes are *Construction of Rural Go downs*, *Market Research and Information Network*, and *Growth / Strengthening of Agricultural Marketing Infrastructure*, *Grading and Standardization*.

Largest troubles in the agricultural sector, since listed through the World Bank, are:

- India's big agricultural subsidies are hampering productivity-enhancing investment.
- Overregulation of agriculture has increased costs, price risks and uncertainty.
- Government interventions in labour, land, and credit markets.
- Inadequate infrastructure and services.

Research and Growth

The Indian Agricultural Research Institute, recognized in 1905, was responsible for the research leading to the "Indian Green Revolution" of the 1970s. The Indian Council of Agricultural Research is the apex body in kundiure and related allied meadows, including research and education. The Union Minister of Agriculture is the President of the ICAR. The Indian Agricultural Statistics Research Institute develops new techniques for the design of agricultural experiments, examines data in agriculture, and specializes in statistical techniques for animal and plant breeding. Prof. M.S.

Swaminathan is recognized since "Father of the Green Revolution" and heads the MS Swaminathan Research Basis. He is recognized for his advocacy of environmentally sustainable agriculture and sustainable food security.

Industrial output

India is tenth in the world in factory output. Manufacturing sector in addition to mining, quarrying, electricity and gas jointly explanation for 27.6% of the GDP and employ 17% of the total workforce. Economic reforms introduced after 1991 brought foreign competition, led to privatization of sure public sector industries, opened up sectors hitherto reserved for the public sector and led to an expansion in the manufacture of fast-moving consumer goods. In recent years, Indian municipalities have sustained to liberalize, but excessive and burdensome business regulations remain a problem in few municipalities, like Kochi and Kolkata.

Post-liberalisation, the Indian private sector, which was generally run through oligopolies of old family firms and required political connections to prosper was faced with foreign competition, including the threat of cheaper Chinese imports. It has as handled the transform through squeezing costs, revamping administration, focusing on designing new products and relying on low labour costs and technology. The Indian market offers endless possibilities for investors.

Services

India is fifteenth in services output. Service industry employ English-speaking workers on the supply face and on the demand face, has increased demand from foreign consumers interested in India's service exports or those looking to outsource their operations. India's IT industry, despite contributing significantly to its balance of payments, explanations for only in relation to the 1% of the total GDP or 1/50th of the total services.

Throughout the Internet bubble that led up to 2000, heavy investments in undersea fiber optic cables linked Asia to the rest of the world. The fall that followed the economic boom resulted in the auction of cheap fiber optic cables at one-tenth of their original price. This growth resulted in widely accessible low-cost communications infrastructure. All of these investments and measures, not to mention a swell of accessible talent, resulted in India becoming approximately overnight the center for outsourcing of Business procedure. Within this sector and measures, the ITES-BPO sector has become a large employment generator especially amongst young college graduates. The number of professionals employed through IT and ITES sectors is estimated at approximately 1.3 million since on March 2006. Also, Indian IT-ITES is estimated to have helped make an additional 3 million occupation opportunities by indirect and induced employment.

Economic Policy: The Backdrop

The economic policy regime erected in the 1950s had its roots in the freedom thrash about itself. The economy had been dominated through metropolitan capital and metropolitan commodities in the pre-independence era. Freedom meant freedom from this power; and this could not be ensured without giving the state in self-governing India a biggest role in structure up infrastructure, expanding and strengthening the productive foundation of the economy, setting up new financial organizations and regulating and coordinating economic action. This was necessary even for structure capitalism itself, although it was proclaimed through few to be also a means of transition to socialism. State capitalism and state intervention were essential instruments for the growth of a relatively autonomous Indian capitalism, displacing metropolitan capital from the pre-eminent location it had engaged in the colonial economy.

There were a number of characteristics of India's post-Independence development strategy that structurally limited the potential of the organization. To start with, despite talk of land reform, of providing "land-to-the-tiller" and curbing the concentration of economic domination, small was done to attack or redress asset and income inequality after Independence. The worst shapes of absentee landlordism were done absent with, but the monopoly of land remained intact in mainly of rural India. And while few monopolistic practices were curbed, asset concentration in the industrial sector was never really challenged. Rather, India's monopolists were able to exploit state intervention since a device to consolidate and expand their monopolistic positions. One consequence of the persistence of asset and income inequality was that there were definite limits to the expansion of the market for size consumption goods in the country. Employment and income development in the private sector was limited. And the big size of peasantry, faced with insecure circumstances of tenure and often obtaining only little shares of the outputs they produced, had neither the means not the stimulus to invest. The prospect of rising productivity and incomes in rural India in order to stimulate domestic demand was so restricted. The absence of any radical land redistribution meant that the domestic market, especially for manufactured goods, remained socially narrowly based. It also meant that the development of agricultural output, however distant greater than in the colonial era, remained well below potential. For the country since a entire, the benefits of such agricultural development since did happen was mainly confined to a relatively narrow stratum of landlords-turned-capitalists and parts of rich peasants who had improved their economic status. Meanwhile, industrial development was not sufficiently employment generating to make big increases in demand from this source.

Under these conditions, continuous development in State spending was essential for the development of the market as it was the key unit in whatever overall dynamism the organization displayed. Further, given the strength and assertiveness of the domestic industrial capitalists, the

government was not in a location to discipline them to the extent that would have been required to launch an East Asian approach mercantilist strategy. The incentive for development had to be internal, even however the autonomous expansion of the domestic market was constrained through the inequality of asset sharing. Therefore the vital incentive to development throughout the early post independence years came from the State itself. It provided domestic capitalists with a big once-for-all market for manufactures through widening and intensifying demand and displacing imported goods from the domestic market. It sought to expand that market by its current and capital expenditures and it supported the domestic capitalist class through investing in crucial infrastructure sectors and directing household savings to fund private investment by the making of a number of industrial growth banks.

This strategy did pay dividends throughout the decade and a half immediately following Independence. In this era rates of industrial development were creditable through international averages, India built up a diversified industrial foundation, and the public sector expanded rapidly sufficient to give crucial infrastructural services, industrial raw materials and capital goods to sustain industrial development even when the foreign swap accessible to import these commodities was limited. Through the mid- 1960s, though, not only was the once-for-all incentive offered through import substitution exhausted, but the skill of the State to continue to give the incentive to development was also undermined through its inability to raise adequate possessions. In consequence, aggregate development decelerated leading to the “secular stagnation” of the late-1960s and 1970s.

The Crisis of Economic *Dirigisme*

The interventionist regime that was set up in the 1950s had serious internal contradictions which contributed to an erosion of its social continuity since well since of its economic viability. This propelled it towards a situation where, given its social foundation, it could not summon the will for any alternative viable responses to the changed international economic context. Therefore, the growth of international capital markets and consequent access to private capital flows added tensions to a regime which had been based on sure critical assumptions relating to the binding foreign swap constraint. This interplay flanked by the changing external context and the accentuating domestic contradictions within the earlier regime gave rise to the totality of conditions that permitted the overt shift in policy creation in favour of neo-liberal economic reforms. Therefore, while the speculation-engendered crisis of 1990-91 provided the immediate occasion for the “economic reform” package, there were fundamental internal contradictions and structural characteristics that had led up to it.

There were three mutually reinforcing and interrelated contradictions that aborted the objectives of this vital model. First, the state within the old economic policy regime had to simultaneously fulfill two dissimilar roles that were incompatible in the extensive run. On the one hand it had to uphold rising expenditure, in scrupulous investment expenditure, in order to stay the domestic market expanding. At the similar time, though, the state exchequer was the medium by which big-level transfers were made to the capitalist and proto-capitalist clusters, therefore that the state effectively became the mainly significant instrument for primary accumulation through the domestic capitalist class in its several manifestations. Of course, there was other instruments since well, few of which were more direct.

But the state exchequer was the mainly significant via media, by mechanisms such since tolerance of fairly widespread and rising tax evasion, a diversity of subsidies and transfers, and by lucrative contracts and procurement policies. These contradictions reflected the class character of the Indian state, which was the focus of much discussion throughout the first three decades after Independence. Kalecki sought to explain the nature of state intervention in what he described an “intermediate regime”, that is one on behalf of the interests of the urban lower transitional class and rich peasantry. In such a regime, the clash of these clusters with feudal landlords and the big capitalist “comprador” units in the economy, since well since the weakness of the lower transitional classes in conditions of their inability to perform the role of dynamic entrepreneurs on a big level, would necessitate a shape of state capitalism, with extremely specific internal contradictions and limits to its development. K. N. Raj applied this concept to the Indian case, although his interpretation met with few controversy, essentially with respect to the characterisation of the state and the implications thereof. Others, through contrast, recognised the nature of the state since an alliance flanked by the rural landed classes and the large industrial bourgeoisie, convinced also through the interaction with metropolitan capital. Few examines moved the focus absent from class to interest clusters, and viewed the Indian public economy since an elaborate network of patronage and subsidies, characterized through “pressure-cluster politics”. Still others treated the state since an autonomous “third actor”, with great domination because of the possessions it controlled, for which class politics was marginal and subordinate to other social formations such since religion, caste and word societies. The present analysis takes an incorporative view, which stresses that both the nature of the Indian state and the functioning of markets have been formed through social and historical procedures, and also affected subsequent class configurations..

These contradictions played out directly in affecting industrial action. After fifteen years of rapid industrial expansion in the 1950s and the early 1960s, there was a dramatic decline in the rate of manufacturing development throughout the after that fifteen years. Through the early 1970s, the

crisis of the *dirigiste* regime was already evident, and there were several pressures structure upon the import-substituting strategy of the earlier decades. The oil shock of 1973 added to domestic inflationary pressures to make the dramatic increases in prices of the era 1973-75, which was also a time of much enhanced socio-political unrest in the country.

The Economic Recovery of the 1980s and 1990s

In the 1980s, the escape from the development impasse of the earlier era was enabled through an augment in the fiscal incentive to the economy provided through government spending, financed increasingly through external commercial borrowing. In addition, there was substantial liberalisation of imports, especially of capital goods and components for manufacturing, which imparted an impetus to final good manufacture based on newly imported inputs. One cause why the model of public sector-led expansion could continue for few more time without generating higher inflation was of course this import liberalisation. Though, few role was also played through the intersect oral conditions of deal, since indicated in Chart 2. The first half of the 1970s marked a peak in conditions of the comparative price of agricultural goods, but after 1977, and by to approximately 1985, such a tendency was effectively contained and the domestic conditions of deal were usually favourable for industrial expansion. In turn, this pattern of the conditions of deal can be partly explained through the information that world agricultural prices were declining in excess of the 1980s. But what was more significant was that development after 1980 in the Indian economy generated much less employment than before, and so implied much less demand for food than would have been the case with more employment-rigorous expansion.

Thereafter, while intersect oral conditions of deal for agriculture remained low compared to the early 1970s, from the mid-1980s onwards for in relation to the a decade Indian agriculturalists were relatively protected from the international movement of conditions of deal against primary products. The liberalisation of imported manufactured goods that started from the 1980s, also played a role in ensuring that conditions of deal improved too few extent for agriculture. The domestic comparative prices for agriculture worsened again in the late 1990s, when deal liberalisation discovered farmers to declining world prices. The 1980s experience suggests that in excess of this era, notwithstanding the limited liberalisation, Indian economic development still depended on the fiscal incentive that government expenditure provided, rather than on an expansion of exports. As such government expenditure was not accompanied through tax and other events aimed at mobilizing additional possessions, but were financed by borrowing, the excess demand in the organization was bound to spill in excess of in the shape of either inflation or a current explanation deficit. Keeping

inflation under manage by imports enabled through deal liberalisation, in turn required more external borrowing to fund the rising current explanation deficit.

In the first two decades after Independence, a leading role in economic development was played through public investment, which had strong positive linkages with private investment in both agriculture and industry. Chart 3 illustrates that public investment since a share of GDP sustained to augment in excess of much of the 1980s, and this no doubt acted since a positive incentive to private investment in excess of this era. Though, after 1987, public and private investment trends diverged quite sharply. Public investment declined quite sharply since a share of GDP, falling back to the stages of the early 1970s, while private investment sustained to augment, such that aggregate investment rates remained broadly stable. Few observers have interpreted such a tendency to mean that Indian entrepreneurs have broken out of state dependence, and that economic liberalisation has created a surge of animal spirits such that private investment no longer needs state action to be buoyant. The combination of deregulation and deal liberalization has created a virtuous pattern of development whereby the state can reduce its expenditure and allow private investors to fill the gap in investment. There is no doubt that the procedure of import liberalisation did lead to few augment in manufacturing action in scrupulous, since the pent-up demand for a range of consumer goods was sought to be met by increased import-rigorous manufacture. Though, this really reflected a once-for-all augment in the domestic market, which tapered off in excess of time, especially because it did not involve big increases in employment in these sectors.

Though, presently looking at public investment alone may provide a misleading sense of the full nature of the fiscal incentive, especially in the 1980s. Government expenditure of all types has played a crucial role in generating more employment and so more direct and indirect demand for private action. These linkage and multiplier effects were especially strong in the era from 1975 to 1986. Chart 4 designates that this was a era of extremely big increases in the share of total government expenditure to GDP. This was clearly the foundation for the high development rates observed in the 1980s, as the positive effects of such expenditure operate immediately since well since with a time lag. The effects of state expenditure were particularly marked in rural India in the second half of the 1980s. This was a era when, beside with a rapid augment in all sorts of subsidies and transfers to households from government, there was a extremely big augment in expenditure on the rural sector through State and Central governments. More usually, during the era political growths tended to provide rural interests greater domination and they were able to command an improvement in the historically low share of government expenditure benefiting rural regions. This flow of possessions involved an expansion of 'rural growth' schemes with an explicit redistributive concern, since well since the greater accessibility of the rural elites to the varied benefits of

aggregate government expenditure. There were several rural employment and IRDP programmes since well since a plethora of special schemes for a diversity of identifiable 'target' clusters. While these programmes were less than entirely successful in reaching target clusters, they still represented a fairly huge net transfer to rural regions. This was instrumental in causing the rural employment diversification of that era since well since allowing for a greater spread of economic development in the country than has been achieved subsequently.

Chart 4 suggests that this positive fiscal incentive declined after 1986. In the 1990s, while the proportion of state expenditure to GDP decreased, economic liberalisation events such as reduced import tariffs and domestic duty rates, caused the total tax-GDP ratio to decline, therefore the fiscal deficit still remained high, albeit with a lower positive incentive. Further, in the early 1990s, financial liberalisation events significantly increased the cost of government borrowing, such that total interest payments of central and state governments became ever more significant, and accounted for since much 7.3 per cent of GDP on standard through the turn of the decade. The question that arises is, what allowed the rate of development in the era after the mid-1980s to be maintained despite the evident decline in the fiscal impetus after 1986? First, while the fiscal stance was reduced, it was still quite significant, above 26 per cent of GDP, until approximately 1993. Thereafter, there was high development for a era in the mid-1990s, caused in scrupulous through the once-for-all spurt provided through import liberalisation. This is also indicated through the spurt in private investment in the mid-1990s, since apparent from Chart 3. Private investment since a share of GDP reached a peak in 1995, and thereafter stabilised at approximately 16 per cent of GDP. Meanwhile, the fiscal incentive, which had been falling continuously, started rising again approximately 1998, although it still remained below the stages of the early 1980s. The tapering off of development in the latter section of the 1990s should be seen in this context. What this essentially illustrates is that the Indian economy remnants critically dependent upon stages of state expenditure to ensure development, despite the periodic stimuli provided through liberalisation, exports and therefore on.

Economic Reforms in the 1990s

The explicit aims of the neo-liberal economic reform procedure adopted from 1991 onwards were:

- To do absent with or considerably reduce manages on capability making, manufacture and prices, and let market forces power the investment and operational decisions of domestic and foreign economic mediators within the domestic tariff region;

- To allow international competition and so international comparative prices to power the decisions of these mediators;
- To reduce the attendance of state agencies in manufacture and deal, except for in regions where market failure necessitates state entry; and
- To liberalize the financial sector through reducing manages on the banking organization, allowing for the proliferation of financial organizations and instruments and permitting foreign entry into the financial sector.

These were all based on the notion that greater freedom given to private mediators and market functioning would ensure more efficient and more dynamic outcomes. The government's aim was also to restructure manufacture towards regions of international "relative advantage". These regions were also seen since inherently more labour-rigorous, which led to the further prediction that, after an initial brief era of net occupation loss, such a strategy of deal liberalisation would actually make more employment in excess of time in more sustainable methods.

These aim translated into successive changes in the pattern of regulation in dissimilar sectors since well since in aggregate macroeconomic policies. Through the early years of the current century, so, the Indian economy had undergone the following policy changes:

- Extremely substantial reduction in direct state manage in conditions of administered prices and regulation of economic action;
- Privatization of state assets, often in controversial conditions;
- Rationalization and reduction of direct and indirect tax rates, which became associated with declining tax-GDP ratios;
- Efforts to reduce fiscal deficits which generally involved cutting back on public productive investment since well since sure kinds of social expenditure, reducing subsidies to farmers and rising user charges for public services and utilities;
- Deal liberalisation, involving shifts from quantitative restrictions to tariffs and typically sharp reductions in the standard rate of tariff defense, since well since withdrawal of export subsidies;
- Financial liberalisation involving reductions in directed credit, freeing of interest rate ceilings and other events which raised the cost of borrowing, including for the government;
- Moving to market determined swap rates and liberalisation of current explanation transactions;
- Allowing a significant degree of capital explanation liberalisation, including easing rules for Foreign Direct Investment, allowing non-residents to hold domestic financial assets,

providing easier access to foreign commercial borrowing through domestic firms, and even allowing domestic residents to hold foreign assets.

It has already been observed that the transition to a higher economic development trajectory was associated in the 1980s with the fiscal incentive provided through the state in a context of import liberalisation. In the 1990s, this fiscal incentive was much weaker, declining in the first section of the decade and only rising somewhat from 1997 onwards. The development performance was more uneven, with deceleration in agricultural output development and fluctuating performance in manufacturing. As the 1990s liberalisation was not accompanied through any new dynamism in the commodity producing sectors of the economy, the expansion of services proved to be crucial in excess of this later era, since apparent from Table 3.

Despite the weakened fiscal incentive, both in conditions of public investment and aggregate expenditure, the role of the state remained crucial, as it was the state that determined the contours of tax reductions, deregulation and other policies that allowed for economic development based on a relatively little and dominantly urban part of the population. The explosion in consumption through the upper quintile of the population fed this development, and meant that it involved increased inequality, both crossways areas of India and within areas crossways dissimilar economic and social categories. There was also a widening gap flanked by incomes in agriculture and non-agriculture, such that the ratio of per worker domestic product in non-agriculture to that in agriculture increased from in relation to the 2 in the 1950s to well in excess of 4 in the 1990s. The era as 1990 was marked through extremely low rates of employment generation. Rural employment in the era 1993-94 to 1999-2000 grew at the extremely low annual rate of less than 0.6 per cent per annum, well below the rate of development of rural population. Urban employment development, at 2.3 per cent per annum, was also well below that of earlier eras, and employment in the formal sector stagnated. The Census of India also suggests that there was dramatic deceleration in employment defined in conditions of the number of largest workers, with greater increases in the number of “marginal workers”. Further, the excellence of employment deteriorated, with increases in casual and section-time job rather than regular, since well since greater fragility of contracts.

The Political Economy of Liberalisation

There is no doubt that, whatever the external pressures upon the state, the neo-liberal reform procedure could not have occurred without what was at first conditional and subsequently more unqualified support extended to it through several units of the domestic big capitalist class, beside

with other social clusters with substantial political voice, such as the transitional classes. To a few extent this can be explained through the proliferation and diversification of the Indian capitalist class that took lay throughout the years of import-substituting development and later. The emergence of new capitalists operating outside the traditional bases of existing monopolistic clusters, such as deal, fund, services of several types and operations abroad through Non-Resident Indian clusters, was an significant factor. These new entrants sought to diversify into manufacturing, and so welcomed deregulation and also, because of access to newer technology, were less averse to import competition.

This created a direct challenge for many of the traditional monopolies, which had in the past been protected through the barriers to entry created through the states industrial and deal policies. Such recognized big capital establishes its comparative location worsening in the economy in excess of time. To reverse this decline, it looked for new avenues, including expansion abroad by the export of capital and through moving into regions previously reserved for little-level entrepreneurs. Therefore even the recognized large businesses that were, to start with, the beneficiary of state manages of several types, began to chafe against these manages at a sure level. In the middle of sure other parts such as the agricultural capitalists the economic regime transform met with qualified approval. Rich farmers were hostile to the withdrawal of subsidized inputs and directed credit, but still favorably anticipated the prospect of exporting at favourable prices in the international market. This meant that a substantial part of domestic capital was willing to create compromises with metropolitan capital, in the hope of being able to bigger its own prospects since a junior partner, both in the domestic since well since in the international market. It was so in favour of import liberalisation and a retreat from state interventionism.

In addition, there was support for economic liberalisation from other quarters: from new businessmen involved in what were essentially “similarity market” transactions; a part of the top bureaucracy; and possibly more significantly, the big and politically powerful urban transitional classes, beside with more wealthy rural cultivation clusters, whose real incomes increased in the consumption-led boom of the 1980s. The latter clusters actively began to desire access to international goods and gave potency to the demands for deal liberalisation. And of course the technical and media revolutions, especially the rising importance of satellite television, imparted a significant impetus to the international demonstration effect, which further fuelled liberalizing and consumerist demands. This procedure was given further incentive through the accelerated globalization of a part of Indian community. Separately from the media, one biggest instrument of this was the postwar Indian Diaspora. The “NRI phenomenon”, through means of which a qualitatively significant number of people from the Indian elites and transitional classes actually

became resident abroad, contributed in no little measure to consumerist demands for opening up the economy. The significance of Non-Resident Indians was not only because they were viewed since potentially significant sources of capital inflow, but also because of their secure links with dominant clusters within the domestically resident community.

Despite the imbalanced and unequal economic development pattern of these years, there was a definite improvement in material circumstances for a substantial part of the upper and transitional classes. As these clusters had a political voice that was distant greater than their share of population, they were able to power economic strategy to their own material advantage. Therefore the regional elites and transitional classes were not only complicit in the procedure of integration with the global economy, but active proponents of the procedure. This becomes clear even from data on the sharing of consumption expenditure through dissimilar fractal clusters. Since Chart 5 suggests, in the 1990s and until 2002, the urban top 20 per cent of the population experienced increases in per capita consumption which were the mainly rapid in post-Independence history. The other clusters that also seem to have increased per capita consumption significantly were the after that 40 per cent of the urban population and the top 20 per cent of the rural population. Through contrast, the per capita consumption of the bottom 40 per cent of the rural population actually declined in excess of this similar era. Such patterns not only provide few thought of the spread of the “gainers” of the economic development procedure, but also indicate the political constituency for the liberalizing reforms of the 1990s.

While the neo-liberal economic reform programme entailed a changed connection of government interaction with economy and polity, it was not a “withdrawal of the state” therefore much since a transform in the character of the association. Therefore, while the state effectively reneged on several of its vital obligations in conditions of providing its citizens access to minimum food, housing, health and education, it was still the case that state actions were essential in determining the method in which markets functioned and the skill of capital to pursue its dissimilar goals. Government and bureaucracy remained crucial to economic functioning; in information the overall context became one of greater centralization of economic and financial domination. Several had whispered that a “retreat of the state” and the exposure of the economy to the discipline of the market would cut out arbitrariness of decision-creation and the corruption that is inevitably associated with it. What happened instead in the Indian economy throughout this era of neo-liberal structural adjustment was an augment in the stages of corruption, cronyism, and arbitrariness to unprecedented stages. For instance, the privatization exercise became another vehicle of primitive accumulation through private capital since it acquired public assets cheaply. With the wider corruption that increasingly pervaded the organization, the “discipline of the market” proved to be a

chimera. The increased income inequalities in excess of this era have emphasised sure longer-term structural characteristics of Indian community, whereby more privileged clusters have sought to perpetuate and augment their manage in excess of limited possessions and channels of income generation in the economy. This in turn has involved the effective economic disenfranchisement of big numbers of people, in rural India since well since in the middle of the urban poor. These concomitant trends of greater economic and financial centralization and increased income inequality in turn operated to aggravate several local, fissiparous and society-based tensions. While the roots of such tensions are obviously intricate, these disagreements both appeared from the prevailing material contradictions and contributed to them.

This situation was neither inevitable nor permanent. The economic context of India in 2004 was one in which the require to rethink, vary and study at least few of the economic strategy of the recent past, was becoming increasingly obvious. In scrupulous, the supposed emphasis on fiscal discipline, which had not been reflected therefore much in actual declines in the fiscal deficit to GDP ratios, but in compression of significant productive public expenditure with high linkage and multiplier effects, required reversal. The neglect of significant policy issues with respect to agriculture could not continue. In addition to greater emphasis on public expenditure with high direct and indirect effects on employment generation, addressing the issue of higher resource mobilization from the rich had become urgent.

REVIEW QUESTIONS

- Give a brief account of Daniel Thorner's critique of the Nationalist thesis on de-industrialization.
- Define the term 're-industrialization' in the Indian context. Examine the pattern of growth of Indian small scale industries during the late 19th and early twentieth centuries.
- Discuss the changes within textile and leather industries in India during the first half of the 20th century.
- Discuss the role of commercial enterprises in the growth of Indian Industries during the pre-independence period.
- Analyze the Indian response towards colonial interventions in the field of science and technology.
- How did the Indian economy respond to the challenges faced in the 1960s?
- Was the economic crisis of 1991 caused by the structural constraints to economic growth?

- Why has state spending been so important in sustaining rates of economic growth in the post-independence period?

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